# SOUTH CAROLINA
# HAZARDOUS WASTE MANAGEMENT
# REGULATIONS

# June 27, 2003


**Promulgated Pursuant to Sections 48-1-10 et seq. and 44-56-30 of the 1976 South Carolina Code of Laws**

**R. 61-79.261**
**Previously Amended June 28, 2002**
(federal compliance)

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This amendment to R.61-79 is effective June 27, 2003, superseding a June 28, 2002, amendment.

The federal equivalent to R. 61-79 is amended throughout the year. The State is required to adopt certain federal amendments to maintain authorization by the United States Environmental Protection Agency for the State Hazardous Waste Management Program.

This State amendment reflects federal amendments published in the Federal Register prior to June 30, 2002. Recent amendments include: a clarifying revision to the Mixture and Derived-From Rules; new listings for three inorganic chemical manufacturing wastes including additional toxic constituents and treatment standards for the wastes; amendments to the Corrective Action Management Unit rule to facilitate cleanup; and deletion of regulatory language vacated by two federal court actions for some mineral processing secondary materials and the application of the Toxicity Characteristic Leaching Procedure to manufactured gas plant wastes. In addition, the Bureau will make amendments to the Hazardous Air Pollutant Standards for Combustors.

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# 261 - IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

## Subpart A - General

### 261.1 Purpose and Scope

*(a)* This part identifies those solid wastes which are subject to regulation as hazardous wastes under Regulations R.61-79.124, .262 through .266, .268, .270, and 40 CFR 271, and which are subject to the notification requirements of the South Carolina

Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA. In this part: (11/90; 12/92)

(1) Subpart A defines the terms "solid waste" and "hazardous waste," identifies those wastes which are excluded from regulation under R.61-79.262 through 266, 268, and R.61-270, and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(2) Subpart B sets forth the criteria used by the Department to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subpart C identifies characteristics of hazardous waste.

(4) Subpart D lists particular hazardous wastes.

*(b)* (1) The definition of solid waste contained in this part applies only to wastes that also are hazardous for purposes of the regulations implementing the South Carolina Hazardous Waste Management Act 44-56-10 et seq and Subtitle C of RCRA. For example, it does not apply to materials (such as nonhazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled (12/92; 12/93).

(2) This part identifies only some of the materials which are solid wastes and hazardous wastes under SCHWMA 44-56-10 et seq. and sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this part, or is not a hazardous waste identified or listed in this part, is still a solid waste and a hazardous waste for purposes of these sections if:

(i) In the case of SCHWMA 44-56-90 and sections 3007 and 3013 of RCRA, the Department has reason to believe that the material may be a solid waste within the meaning of section 44-56-20(6) of the S.C. Code of Laws of 1976, as amended or a solid waste within the meaning of section 1004(27) of RCRA and a hazardous waste within the meaning of section 1004(5) of RCRA; or (11/90, 11/99)

(ii) In the case of SCHWMA 44-56-50 or RCRA section 7003, the statutory elements are established.

*(c)* For the purposes of sections 261.2 and 261.6:

(1) A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing;

(2) "Sludge" has the same meaning used in 260.10;

(3) A "by-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is "used or reused" if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

6) "Scrap metal" is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is "recycled" if it is used, reused, or reclaimed.

(8) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that - during the calendar year (commencing on January 1) - the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under section 261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(9) "Excluded scrap metal" is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal. (9/98)

(10) "Processed scrap metal" is scrap metal which has been manually or physically altered to

either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Note: shredded circuit boards being sent for recycling are not considered processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (261.4(a)(13)). (9/98)

(11) "Home scrap metal" is scrap metal as generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings. (9/98)

(2) "Prompt scrap metal" is scrap metal as generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Prompt scrap is also known as industrial or new scrap metal. (9/98)

*(d)* Used oil is subject to the applicable requirements of 266 only. (6/89; 12/92)

**261.2 Definition of solid waste**

*(a)* (1) A solid waste is any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under 260.30 and 260.31.

(2) A discarded material is any material which is (12/92):

(i) Abandoned, as explained in paragraph (b) of this section; or

(ii) Recycled, as explained in paragraph (c) of this section; or

(iii) Considered inherently waste-like, as explained in paragraph (d) of this section; or (9/98)

(iv) A "military munition" identified as a solid waste in 266.202. (9/98)

*(b)* Materials are solid waste if they are abandoned by being:

(1) Disposed of; or

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

*(c)* Materials are solid wastes if they are recycled or accumulated, stored, or treated before recycling - as specified in paragraphs (c)(1) through (4) of this section.

(1) Used in a manner constituting disposal.

(i) Materials noted with an "x" in Column 1 of Table 1 are solid wastes when they are:

(A) Applied to or placed on the land in a manner that constitutes disposal; or

(B) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in section 261.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) Burning for energy recovery.

(i) Materials noted with an "x" in column 2 of Table 1 are solid wastes when they are:

(A) Burned to recover energy;

(B) Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in section 261.33 are not solid wastes if they are themselves fuels.

(3) Reclaimed. Materials noted with an "x" in column 3 of Table 1 are solid wastes when reclaimed. Materials noted with a "---" in column 3 of Table 1 are not solid wastes when reclaimed. (11/99, 8/00, 6/03).

(4) Accumulated speculatively. Materials noted with an "x" in column 4 of Table 1 are solid wastes when accumulated speculatively.

261.2 Table 1 Summary of definitions of Solid Waste

| [Note: The terms "spent materials," "sludges," "by-products," and "scrap metal" are defined in 261.1.] (11/99) | Use Constituting Disposal 261.2(c)(1) (1) | Energy Recovery/ Fuel 261.2(c)(2) (2) | Reclamation 261.2(c)(3) (8/00)(except as provided in 261.4(a)(17) for mineral processing secondary metals) (3) | Speculative Accumulation 261.2(c)(4) (4) |
|---|---|---|---|---|
| Spent Materials | (x) | (x) | (x) | (x) |
| Sludges (listed in Section 261.31 or .32) | (x) | (x) | (x) | (x) |
| Sludges exhibiting a characteristic of hazardous waste | (x) | (x) | --- | (x) |
| By-products (listed in Section 261.31 or .32) | (x) | (x) | (x) | (x) |
| By-products exhibiting a characteristic of hazardous waste | (x) | (x) | --- | (x) |
| Commercial chemical products listed in Section 261.33 | (x) | (x) | --- | --- |
| Scrap metal other than excluded scrap metal (see 261.1(c)(9)) | (x) | (x) | (x) | (x) |

*(d)* Inherently waste-like materials. The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subparts C or D of this part, except for brominated material that meets the following criteria: (12/92, 12/93)

(i) The material must contain a bromine concentration of at least 45%; and (12/93)

(ii) The material must contain less than a total of 1% of toxic organic compounds listed in appendix VIII; and (12/93)

(iii) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping). (12/93)

(3) The Department will use the following criteria to add wastes to that list (12/92):

(i) (A) The materials are ordinarily disposed of, burned, or incinerated; or

(B) The materials contain toxic constituents listed in Appendix VIII of 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) The material may pose a substantial hazard to human health and the environment when recycled.

*(e)* Materials that are not solid waste when recycled.

(1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed or land disposed; or (5/96)

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at 261.4(a)(17) apply rather than this paragraph. (5/96, 11/99; 8/00)

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i) through (iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraphs (d)(1) and (d)(2) of this section. (12/93, 11/99)

*(f)* Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation. Respondents in actions to enforce regulations implementing the SC Hazardous Waste Management Act Sections 44-56-10 et seq. and Subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so (12/93, 11/99).

**261.3 Definition of hazardous waste**

*(a)* A solid waste, as defined in 261.2, is a hazardous waste if: (11/99)

(1) It is not excluded from regulation as a hazardous waste under 261.4(b); and (11/99)

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C of this part. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table I to 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred, or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture. (11/90, 12/93, 11/99)

(ii) It is listed in subpart D and has not been excluded from the lists in subpart D of this part under 260.20 and 260.22.

(iii) [Reserved 6/02]

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this paragraph under 260.20 and 260.22, paragraph (g) of this section, or paragraph (h) of this section; however, the following mixtures of solid wastes and hazardous wastes listed in subpart D of this part are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under the S. C. Pollution Control Act Section 48-1-10 et seq., of the S. C. Code of Laws of 1976, as amended and under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and: (11/90; 12/93, 6/02)

(A) One or more of the following solvents listed in section 261.31 - carbon tetrachloride, tetrachloroethylene, trichloroethylene - Provided, That the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or (5/96)

(B) One or more of the following spent solvents listed in Section 261.31 - methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents - provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pre-treatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in 261.32, provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050), crude oil storage tank sediment from petroleum refining operations (EPA Hazardous Waste No. K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (EPA Hazardous Waste No. K170), spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and spent hydrorefining catalyst (EPA Hazardous Waste No. K172); or (8/00)

(D) A discarded commercial chemical product, or chemical intermediate listed in section 261.33, arising from deminimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this paragraph (a)(2)(iv)(D), "deminimis" losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or (12/93)

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subpart D of this part, Provided, That the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or (5/96)

(F) One or more of the following wastes listed in 261.32-wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157)-Provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight; or (5/96)

(G) Wastewaters derived from the treatment of one or more of the following wastes listed in 261.32-organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156).-Provided, that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment

system does not exceed a total of 5 milligrams per liter. (5/96)

(v) Rebuttable presumption for used oil. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of part 261 of this chapter). EPA Publication SW-846, Third Edition, is available for the cost of $110.00 from the Government Printing Office, Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250-7954. 202-783-3238 (document number 955-001-00000-1). (11/99)

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed. (11/99)

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units. (11/99)

*(b)* A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in subpart D of this part, when the waste first meets the listing description set forth in subpart D of this part.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subpart D is first added to the solid waste. (8/00)

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subpart C of this part.

*(c)* Unless and until it meets the criteria of paragraph (d) of this part:

(1) A hazardous waste will remain a hazardous waste.

(2) (i) Except as otherwise provided in paragraph (c)(2)(ii), (g) or (h), any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.) (6/02, 6/03)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

(A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by section 261.6(a)(3)(iii)and (iv) (12/92; 5/96; 8/00).

(C) (1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062, or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for Industrial furnace" in 260.10), that are disposed in subtitle D units, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements. (12/92; 12/93)

| Constituent | Maximum for any single composite sample (mg/l) |
|---|---|
| Generic exclusion levels for **K061 and K062** nonwastewater HTMR residues | |
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| Lead | 0.15 |
| Mercury | 0.009 |
| Nickel | 1.0 |
| Selenium | 0.16 |
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70. |

| Generic exclusion levels for **F006** nonwastewater HTMR residues | |
|---|---|
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| Cyanide (total) (mg/kg) | 1.8 |
| Lead | 0.15 |
| Mercury | 0.009 |
| Nickel | 1.0 |
| Selenium | 0.16 |
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70.0 |

(2) A one-time notification and certification must be placed in the facility's files and sent to the Department for K061, K062, or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the Department on an annual basis if such changes occur. Such notification and certification should be sent to the Department by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." (12/93; 5/96)

(D)Biological treatment sludge from the treatment of one of the following wastes listed in 261.32 - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).(10/01)

(E) Catalyst inert support media separated from one of the following wastes listed in 261.32 Spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and Spent hydrorefining catalyst (EPA Hazardous Waste No. K172). (8/00)

*(d)* Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subpart C of this part. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of part 268, even if they no longer exhibit a characteristic at the point of land disposal) (12/92).

(2) In the case of a waste which is a listed waste under subpart D of this part, contains a waste listed under subpart D of this part or is derived from a waste listed in subpart D of this part, it also has been excluded from paragraph (c) under 260.20 and 260.22.

*(e)* For the purposes of this regulation the wastes listed in Appendix XI will be considered hazardous.

*(f)* Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in part 268 does not exhibit a characteristic identified at subpart C of this part, the following materials are not subject to regulation under 260, 261 to 266, 268, or 270: (12/93)

(1) Hazardous debris as defined in part 268 that has been treated using one of the required extraction or destruction technologies specified in Table 1 of 268.45; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or (12/93)

(2) Debris as defined in part 268 that the Department, considering the extent of contamination, has determined is no longer contaminated with hazardous waste. (12/93)

*(g)* (1) A hazardous waste that is listed in subpart D of this part solely because it exhibits one or more characteristics of ignitability as defined under 261.21, corrosivity as defined under 261.22, or reactivity as defined under 261.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subpart C of this part. (6/02)

(2) The exclusion described in paragraph (g)(1) of this section also pertains to:

(i) Any mixture of a solid waste and a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section; and

(ii) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (c)(2)(i) of this section.

(3) Wastes excluded under this section are subject to part 268 of this chapter (as applicable), even

if they no longer exhibit a characteristic at the point of land disposal.

(4) Any mixture of a solid waste excluded from regulation under 261.4(b)(7) and a hazardous waste listed in Subpart D solely because it exhibits one or more of the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in Subpart C for which the hazardous waste listed in Subpart D was listed. (6/03)

*(h)* (1)Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of 266, Subpart N ("eligible radioactive mixed waste"). (6/02)

(2) The exemption described in paragraph (h)(1) of this section also pertains to:

(i) Any mixture of a solid waste and an eligible radioactive mixed waste; and

(ii) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this section must meet the eligibility criteria and specified conditions in 266.225 and 266.230 (for storage and treatment). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

**261.4 Exclusions**

*(a)* Materials which are not solid wastes. The following materials are not solid wastes for the purpose of this part:

(1) (i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under Section 48-1-10 et seq., of the S. C. Code of Laws of 1976, and section 402 of the Clean Water Act, as amended. (12/93)

[Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment] (12/92).

(3) Irrigation return flows.

(4) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(6) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in Section 261.1(c).

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in Section 261.1(c).

(8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(9) (12/92)

(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(iii) Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in paragraphs (a)(9)(i) and (a)(9)(ii) of this section, so long as they meet all of the following conditions: (11/99)

(A) The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose; (11/99)

(B) Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both; (11/99)

(C) Any unit used to manage wastewaters and/or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent such releases; (11/99)

(D) Any drip pad used to manage the wastewaters and/or spent wood preserving solutions prior to reuse complies with the standards in part 265, subpart W of this chapter, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste; and (11/99)

(E) Prior to operating pursuant to this exclusion, the plant owner or operator submits to the

appropriate Department a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion, and containing the following language: "I have read the applicable regulation establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the regulation." The plant must maintain a copy of that document in its on-site records for a period of no less than 3 years from the date specified in the notice. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the appropriate Department for reinstatement. Department may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur. (11/99)

(10) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke byproducts processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in section 261.24 of this part when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or are mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or the tar recovery or refining processes, or mixed with coal tar. (12/93)

(11) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery. (12/93)

(12) (i) Oil-bearing hazardous secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911 - including, but not limited to, distillation, catalytic cracking, fractionation, or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this paragraph, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this provision. Except as provided in paragraph (a)(12)(ii) of this section, oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this paragraph (a)(12)(i), where such materials as generated would have otherwise met a listing under subpart D of this part, are designated as F037 listed wastes when disposed of or intended for disposal. (5/96, 9/98; 8/00)

(ii) Recovered oil that is recycled in the same manner and with the same conditions as described in paragraph (a)(12)(i) of this section. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices, including refining, exploration and production, bulk storage, and transportation incident thereto (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172.) Recovered oil does not include oil-bearing hazardous wastes listed in subpart D of this part; however, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as defined in 40 CFR 279.1. (8/00)

(13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled. (9/98)

(14) Shredded circuit boards being recycled provided that they are: (9/98)

(i) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(ii) Free of mercury switches, mercury relays and nickel cadmium batteries and lithium batteries.

(15) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates. (11/99)

(16) Comparable fuels or comparable syngas fuels (i.e., comparable/syngas fuels) that meet the requirements of 261.38. (11/99, 8/00)

(17) Spent materials (as defined in 261.1) (other than hazardous wastes listed in subpart D of this part) generated within the primary mineral processing industry from which minerals, acids, cyanide, water, or other values are recovered by mineral processing, or by beneficiation, provided that: (11/99; 8/00, 6/03)

(i) The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values; (6/03)

(ii) The spent material is not accumulated speculatively; (6/03)

(iii) Except as provided in paragraph (a)(17)(iv) of this section, the spent material is stored in tanks, containers, or buildings meeting the following minimum integrity standards: a building

must be an engineered structure with a floor, walls, and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the secondary material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank must be free standing, not be a surface impoundment (as defined in 260.10), and be manufactured of a material suitable for containment of its contents; a container must be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner/operator must operate these units in a manner which controls fugitive dust. Tanks, containers, and buildings must be designed, constructed and operated to prevent significant releases to the environment of these materials. (8/00, 6/03)

(iv) The Department may make a site-specific determination, after public review and comment, that only solid mineral processing spent material may be placed on pads rather than tanks, containers, or buildings. Solid mineral processing spent materials do not contain any free liquid. The decision-maker must affirm that pads are designed, constructed and operated to prevent significant releases of the secondary material into the environment. Pads must provide the same degree of containment afforded by the non-RCRA tanks, containers and buildings eligible for exclusion. (6/03)

(A) The decision-maker must also consider if storage on pads poses the potential for significant releases via groundwater, surface water, and air exposure pathways. Factors to be considered for assessing the groundwater, surface water, air exposure pathways are: the volume and physical and chemical properties of the secondary material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

(B) Pads must meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run on/runoff controls, be operated in a manner which controls fugitive dust, and have integrity assurance through inspections and maintenance programs. (6/03)

(C) Before making a determination under this paragraph, the Department must provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers, or broadcasting notice over local radio stations.

(v) The owner or operator provides notice to the Department, providing the following information: the types of materials to be recycled; the type and location of the storage units and recycling processes; and the annual quantities expected to be placed in land-based units. This notification must be updated when there is a change in the type of materials recycled or the location of the recycling process. (8/00, 6/03)

(vi): For purposes of 261.4(a)(7) mineral processing spent materials must be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for the conditional exclusion from the definition of solid waste. (6/03)

(18) Petrochemical recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, provided: (8/00)

(i) The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in 261.21) and/or toxicity for benzene (261.24, waste code D018); and

(ii) The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An "associated organic chemical manufacturing facility" is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822, and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. "Petrochemical recovered oil" is oil that has been reclaimed from secondary materials (i.e., sludges, byproducts, or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(19) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land, or accumulated speculatively as defined in 261.1(c). (8/00)

*(b)* Solid wastes which are not hazardous wastes. The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel)

or reused. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purpose of regulation under this subtitle, if such facility (12/92; 12/93, 6/03):

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site if such overburden is handled in compliance with all applicable provisions of the S. C. Mining Act, Section 48-20-10 et seq., S. C. Code of Laws, 1976, as amended.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels, except as provided by 266.112 for facilities that burn or process hazardous waste (12/92).

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(6) (i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in subpart D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that: (11/90)

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i) (A), (B), and (C) (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are: (11/90; 12/93)

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling. (11/90; 12/92)

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling. (12/92)

(F) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of $TiO^2$ pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock, and overburden from the mining of uranium ore), except as provided by 266.112 for facilities that burn or process hazardous waste.

(i) For purposes of 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching.

(ii) For the purposes of 261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes as generated: (12/92, 11/99)

(A) Slag from primary copper processing;

(B) Slag from primary lead processing;

(C) Red and brown muds from bauxite refining;

(D) Phosphogypsum from phosphoric acid production;

(E) Slag from elemental phosphorus production;

(F) Gasifier ash from coal gasification;

(G) Process wastewater from coal gasification;

(H) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(I) Slag tailings from primary copper processing;

(J) Fluorogypsum from hydrofluoric acid production;

(K) Process wastewater from hydrofluoric acid production;

(L) Air pollution control dust/sludge from iron blast furnaces;

(M) Iron blast furnace slag;

(N) Treated residue from roasting/leaching of chrome ore;

(O) Process wastewater from primary magnesium processing by the anhydrous process;

(P) Process wastewater from phosphoric acid production;

(Q) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

(R) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(S) Chloride process waste solids from titanium tetrachloride production;

(T) Slag from primary zinc processing.

(iii) A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under paragraph (b) of this section if the owner or operator: (11/99; 8/00)

(A) Processes at least 50 percent by weight normal beneficiation raw materials or normal mineral processing raw materials; and,

(B) Legitimately reclaims the secondary mineral processing materials.

(8) Cement kiln dust waste, except as provided by 266.112 for facilities that burn or process hazardous waste (12/92).

(9) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason, if the waste is generated by persons who utilize the arsenical-treated wood and wood product for these materials' intended end use. (11/90; 12/92; 12/93)

(10) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of section 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR 280. (11/90)

(11) [Reserved]

(12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use (12/92).

(13) Non-terne plated used oil filters that are not mixed with wastes listed in Subpart D of this part if these oil filters have been gravity hot-drained using one of the following methods: (12/93)

(i) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;

(ii) Hot-draining and crushing;

(iii) Dismantling and hot-draining; or

(iv) Any other equivalent hot-draining method that will remove used oil.

(14) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products. (12/93)

(15) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that: (8/00, 6/03)

(i) The solid wastes disposed would meet one or more of the listing descriptions for Hazardous Waste Codes K169, K170, K171, K172, K174, K175, K176, K177, and K178, if these wastes had been generated after the effective date of the listing; (6/03)

(ii) The solid wastes described in paragraph (b)(15)(i) of this section were disposed prior to the effective date of the listing;

(iii) The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste;

(iv) Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail, or dedicated pipe, is subject to regulation under sections 307(b) or 402 of the Clean Water Act.

(v) As of February 13, 2001, leachate or gas condensate derived from K169-K172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After November 21, 2003, leachate or gas condensate derived from K176, K177, and K178 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this paragraph after the emergency ends. (6/03)

*(c)* Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under 262 through 266, 268, 270, and 124 or to the notification requirements of South Carolina Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials. (11/90; 12/92)

*(d)* Samples.

(1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this part or 262 through 266, 268, 270, or 124 or to the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 when: (11/90; 12/92)

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) The sample is being stored in a laboratory before testing; or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) The sample collector's name, mailing address, and telephone number;

(2) The laboratory's name, mailing address, and telephone number;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

*(e)* Treatability Study Samples. (11/90; 12/94)

(1) Except as provided in paragraph (e)(2) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10, are not subject to any requirement of parts 261 through 263 or to the notification requirements of SC 44-56-120 and Section 3010 of RCRA, nor are such samples included in the quantity determinations of 261.5 and 262.34(d) when (12/92):

(i) The sample is being collected and prepared for transportation by the generator or sample collector; or

(ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(i) The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

(ii) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste, and 1 kg of acute hazardous waste; and

(iii) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of paragraph A or B of this subparagraph are met.

(A) The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), South Carolina Public Service Commission or any other applicable shipping requirements; or

(B) If the DOT, USPS, South Carolina Public Service Commission or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(1) The name, mailing address, and telephone number of the originator of the sample;

(2) The name, address, and telephone number of the facility that will perform the treatability study;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample, including its EPA Hazardous Waste Number.

(iv) The sample is shipped to a laboratory or testing facility which is exempt under 261.4(f) or has an appropriate RCRA permit or interim status.

(v) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

(A) Copies of the shipping documents;

(B) A copy of the contract with the facility conducting the treatability study;

(C) Documentation showing:

(1) The amount of waste shipped under this exemption;

(2) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(3) The date the shipment was made; and

(4) Whether or not unused samples and residues were returned to the generator.

(vi) The generator reports the information required under paragraph (e)(2)(v)(C) of this section in its annual report (12/92, 9/98).

(3) The Department may grant requests on a case-by-case basis for up to an additional two years for treatability studies involving bioremediation. The Department may grant requests on a case-by-case basis for quantity limits in excess of those specified in paragraphs (e)(2)(i) and (ii) and (f)(4) of this section, for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste;

(i) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(ii) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(iii) The additional quantities and timeframes allowed in paragraph (e)(3) (i) and (ii) of this section are subject to all the provisions in paragraphs (e)(1) and (e)(2)(iii) through (vi) of this section. The generator or sample collector must apply to the Department and provide in writing the following information:

(A) The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed,

(B) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results on each treatability study;

(C) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(D) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(E) Such other information that the Department considers necessary.

*(f)* Samples Undergoing Treatability Studies at Laboratories and Testing Facilities. Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this part, part 124, parts 262 through 266, 268, and 270, or to the notification requirements of SCHWMA 44-56-120 and Section 3010 of RCRA provided that the conditions of paragraphs (f) (1) through (11) of this section are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (f) (1) through (11) of this section. Where a group of MTUs are located at the same site, the limitations specified in (f) (1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU. (11/90; 12/92; 12/94)

(1) No less than 45 days before conducting treatability studies, the facility notifies the Department in writing that it intends to conduct treatability studies under this paragraph.

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(3) No more than a total of 10,000 kg of "as received" media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other "as received" hazardous waste is subject to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

(4) The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media, and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to "as received" hazardous waste.

(5) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(i) The name, address, and EPA identification number of the generator or sample collector of each waste sample;

(ii) The date the shipment was received;

(iii) The quantity of waste accepted;

(iv) The quantity of "as received" waste in storage each day;

(v) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day;

(vi) The date the treatability study was concluded;

(vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, onsite, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Department by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and includes the following information for the previous calendar year:

(i) The name, address, and EPA identification number of the facility conducting the treatability studies;

(ii) The types (by process) of treatability studies conducted;

(iii) The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers);

(iv) The total quantity of waste in storage each day;

(v) The quantity and types of waste subjected to treatability studies;

(vi) When each treatability study was conducted;

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under 261.3 and, if so, are subject to parts 261 through 268, and part 270, unless the residues and unused samples are returned to the sample originator under the 261.4(e) exemption.

(11) The facility notifies the Department by letter when the facility is no longer planning to conduct any treatability studies at the site. (11/90)

*(g)* Dredged material that is not a hazardous waste. Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C.1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this paragraph (g), the following definitions apply: (8/00)

(1) The term dredged material has the same meaning as defined in 40 CFR 232.2;

(2) The term permit means:

(i) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344);

(ii) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413); or

(iii) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in paragraphs (g)(2)(i) and (ii) of this section, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6).

**261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators**

*(a)* A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month. (6/89, 12/92)

*(b)* Except for those wastes identified in paragraphs (e), (f), (g), and (j) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under 262 through 266, 268, 270 and 124, and the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-60 and provided the generator complies with the requirements of paragraphs (f), (g), and (j) of this section (6/89, 11/90).

*(c)* When making the quantity determinations of this part and 262, the generator must include all hazardous waste that it generates, except hazardous waste that: (5/96)

(1) Is exempt from regulation under 261.4(c) through (f), 261.6(a)(3), 261.7(a)(1), or 261.8; or (5/96)

(2) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in 260.10; or (5/96)

(3) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under 261.6(c)(2); or (5/96)

(4) Is used oil managed under the requirements of 261.6(a)(4) or (5/96)

(5) Is spent lead-acid batteries managed under the requirements of 266 subpart G; or (5/96)

(6) Is universal waste managed under 261.9 and 273. (5/96)

*(d)* In determining the quantity of hazardous waste generated, a generator need not include:

(1) Hazardous waste when it is removed from onsite storage; or

(2) Hazardous waste produced by onsite treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or (6/89)

(3) Spent materials that are generated, reclaimed, and subsequently reused onsite, so long as such spent materials have been counted once. (6/89)

*(e)* If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acute hazardous waste are subject to full regulation under 262 through 266, 268, R.61-79.270 and 124 and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA: (11/90; 12/92)

(1) A total of one kilogram of acute hazardous wastes listed in sections 261.31, 261.32, or 261.33(e).

(2) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in sections 261.31, 261.32, or 261.33(e).

[Comment: "Full regulation" means those regulations applicable to generators of greater than 1,000 kg of

non-acutely hazardous waste in a calendar month.] (12/93)

*(f)* In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements: (11/90, 12/92)

(1) Section 262.11;

(2) The generator may accumulate acute hazardous waste onsite. If he accumulates at any time acute hazardous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes are subject to regulation under 262 through 266, 268, 270 and 124 and the applicable notification requirements of section 3010 RCRA and the applicable notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120. The time period of 262.34(a) for accumulation of wastes onsite, begins when the accumulated wastes exceed the applicable exclusion limit; (11/90, 12/92)

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an onsite facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is: (6/89)

(i) Permitted under 270;

(ii) In interim status under 270 and 265;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR 271; (12/92)

(iv) Permitted, licensed, or registered by the Department to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to R.61-107.258; (12/92, 5/96, 9/98)

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in R.61-107.257.5 through 257.30; or (9/98)

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or (5/96)

(vii) For universal waste managed under part 273, a universal waste handler or destination facility subject to the requirements of 273. (5/96)

*(g)* In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of less than 100 kilograms of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements: (6/89)

(1) Section 262.11;

(2) The conditionally exempt small quantity generator may accumulate hazardous waste onsite. If he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of those accumulated wastes are subject to regulation under the special provisions of 262 applicable to generators of between 100 kg and 1000 kg of hazardous waste in a calendar month as well as the requirements of 263 through 266, 268, and 270 and 124 and the applicable notification requirements of section 3010 of RCRA and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120. The time period of 262.34(d) for accumulation of wastes onsite begins for a conditionally exempt small quantity generator when the accumulated wastes exceed 1000 kilograms; (11/90, 12/92)

(3) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an onsite facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under 270;

(ii) In interim status under 270 and 265;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR 271 (12/92);

(iv) Permitted, licensed, or registered by the Department to manage municipal solid waste, and, if managed in a municipal solid waste landfill is subject to R.61-107.258; (6/89, 12/92; 5/96, 9/98)

(v) Permitted, licensed, or registered by the Department to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in R.61-107.257.5 through 257.30; or (9/98)

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or (5/96)

(vii) For universal waste managed under part 273, a universal waste handler or destination facility subject to the requirements of 273. (5/96)

*(h)* Hazardous waste subject to the reduced requirements of this section may be mixed with nonhazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in subpart C.

*(i)* If any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion

level of this section, the mixture is subject to full regulation. (11/90)

*(j)* If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to subpart E of part 266 of this Regulation if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery. (6/89)

*(k)* [Reserved; moved to 262 12/92]

**261.6 Requirements for recyclable materials**

*(a)* (1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under subparts C through H of 266 and all applicable provisions in 270 and 124 (12/92):

(i) Recyclable materials used in a manner constituting disposal (subpart C);

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under subpart O of 264 or 265 (Subpart H); (11/90, 12/92)

(iii) Used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under subpart O of 264 or 265 or E of 266); (11/90)

(iv) Recyclable materials from which precious metals are reclaimed (subpart F );

(v) Spent lead-acid batteries that are being reclaimed (subpart G).

(3) The following recyclable materials are not subject to regulation under 262 through 266, or 268, 270 or 124 and are not subject to the notification requirements of section 3010 RCRA and the notification requirements of the South Carolina Hazardous Waste Management Act (11/90, 12/92, 6/03):

(i) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in 262.58:

(A) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in sections 262.53, 262.56 (a)(1) - (4), (6), and (b), and 262.57, export such materials only upon consent of the receiving country and in conformance with the EPA Acknowledgement of Consent as defined in subpart E of 262 and provide a copy of the EPA Acknowledgement of Consent to the shipment to the transporter transporting the shipment for export;(11/90)

(B) Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgement of Consent, must ensure that a copy of the EPA Acknowledgement of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(ii) Scrap metal that is not excluded under 261.4(a)(13). (10/01);

(iii) Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under 261.4(a)(12); (10/01, 6/03)

(iv) (A)Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under R.61-79.266.40(e) and so long as no other hazardous wastes are used to produce the hazardous waste fuel; (12/92, 5/96, 6/03)

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under R.61-79.266.40(e); and

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under R.61-79.266.40(e); and

(v) US Filter Recovery Services XL waste (Subpart O). (6/03)

(vi) Used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery (2/92, 8/00, 9/01 6/03)

(4) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of parts 260 through 268, but is regulated under 266

Subpart E. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed. (12/93)

(5) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in 262.58(a)(1)) for purpose of recovery is subject to the requirements of part 262, subpart H, if it is subject to either the federal manifesting requirements of Part 262, to the universal waste management standards of Part 273. (9/98)

*(b)* Generators and transporters of recyclable materials are subject to the applicable requirements of 262 and 263 of these Regulations, and the notification requirements under 44-56-120 and section 3010 of RCRA, except as provided in paragraph (a) of this section (12/92).

*(c)* (1) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subparts A through L, AA, BB and CC of 264 and 265, and under 266, 268, 270, and 124 and the notification requirements of section 3010 RCRA and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in 261.6(d).) (11/90, 12/92, 9/98)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under SCHWMA 44-56-120, and section 264.5 or section 265.5 and section 3010 of RCRA; (10/01)

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of 265.

(iii) Section 261.6(d) (12/92).

*(d)* Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subparts AA and BB of part 264 or 265 (12/92).

### 261.7 Residues of hazardous waste in empty containers

*(a)* (1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to regulation under 261 through 266, or 268, 124, and 270 or to the notification requirements of section 3010 RCRA and the South Carolina Hazardous Waste Management Act 44-56-120. (11/90, 12/92)

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under 261 through 266, and 268, 124, and 270 and to the notification requirements of section 3010 RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92).

*(b)* (1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in sections 261.31, 261.32, or 261.33(e) of this regulation, is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(ii) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

(iii) (A) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

(B) No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in sections 261.31, 261.32, or 261.33(e) of this regulation is empty if:

(i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

### 261.8 PCB wastes regulated under Toxic Substance Control Act

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 CFR 761 and that are hazardous only because they fail the test for the Toxicity Characteristic (Hazardous Waste Codes

D018 through D043 only) are exempt from regulation under parts 261 through 265, and parts 268, 270, and 124, and the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92)

**261.9 Requirements for Universal Waste**

The wastes listed in this section are exempt from regulation under parts 262 through 270 except as specified in part 273 and, therefore are not fully regulated as hazardous waste. The wastes listed in this section are subject to regulation under 273: (5/96, 8/00)

*(a)* Batteries as described in 273.2;

*(b)* Pesticides as described in 273.3;

*(c)* Thermostats as described in 273.4 and

*(d)* Lamps as described in 273.5.

## Subpart B - Criteria for Identifying the Characteristics of Hazardous Waste & for Listing Hazardous Waste

**261.10 Criteria for identifying the characteristics of hazardous waste**

*(a)* The Department shall identify and define a characteristic of hazardous waste in subpart C only upon determining that (12/92):

(1) A solid waste that exhibits the characteristic may: (11/90)

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

**261.11 Criteria for listing hazardous waste**

*(a)* The Department shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria (12/92):

(1) It exhibits any of the characteristics of hazardous waste identified in subpart C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in appendix VIII and, after considering the following factors, the Department concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed: (12/92)

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(Wastes listed in accordance with these criteria will be designated Toxic wastes.)

*(b)* The Department list classes or types of solid waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the

definition of hazardous waste in Section 261.3 and found in section 1004(5) of RCRA.(10/01)

*(c)* The Department will use the criteria for listing specified in this section to establish the exclusion limits referred to in Section 261.5(c).

## Subpart C - Characteristics of Hazardous Waste

### 261.20 General

*(a)* A solid waste, as defined in section 261.2, which is not excluded from regulation as a hazardous waste under section 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[Comment: 262.11 sets forth the generators responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart (12/92)]

*(b)* A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under 262 through 266, 268, 270 and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92).

*(c)* For purposes of this subpart, the Department will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of 260.

[Comment: Since the Appendix I sampling methods are not being formally adopted by the Department, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in 260.20 and 260.21 (12/92)].

### 261.21 Characteristic of ignitability

*(a)* A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140° F) as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see 260.11) or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see 260.11), or as determined by an equivalent test method approved by the Department under procedures set forth in 260.20 and 260.21. (11/90, 12/92)

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Department under 260.20 and 260.21. (12/93)

(4) It is an oxidizer as defined in 49 CFR 173.151.

*(b)* A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001 (12/92).

### 261.22 Characteristic of corrosivity

*(a)* A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties: (12/94)

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. (12/93, 9/01)

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA publication SW-846, incorporated by reference in 260.11. (12/93)

*(b)* A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002. (12/92)

### 261.23 Characteristic of reactivity

*(a)* A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a

quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

*(b)* A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003. (12/92)

**261.24 Toxicity characteristic (11/90)**

*(a)* A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section. (12/92, 12/93, 12/94, 6/03)

*(b)* A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous (12/92).

261.24(b) Table 1 Maximum Concentration of Contaminants for the Toxicity Characteristic (11/90)

| EPA HW # [1] | Contaminant | CAS No. [2] | Regulatory Level (mg/L) |
|---|---|---|---|
| D004 | Arsenic | 7440-38-2 | 5.0 |
| D005 | Barium | 7440-39-3 | 100.0 |
| D018 | Benzene | 71-43-2 | 0.5 |
| D006 | Cadmium | 7440-43-9 | 1.0 |
| D019 | Carbon tetrachloride | 56-23-5 | 0.5 |
| D020 | Chlordane | 57-74-9 | 0.03 |
| D021 | Chlorobenzene | 108-90-7 | 100.0 |
| D022 | Chloroform | 67-66-3 | 6.0 |
| D007 | Chromium | 7440-47-3 | 5.0 |
| D023 | o-Cresol | 95-48-7 | [4] 200.0 |
| D024 | m-Cresol | 108-39-4 | [4] 200.0 |
| D025 | p-Cresol | 106-44-5 | [4] 200.0 |
| D026 | Cresol | ..... | [4] 200.0 |
| D016 | 2,4-D | 94-75-7 | 10.0 |
| D027 | 1,4-Dichlorobenzene | 106-46-7 | 7.5 |
| D028 | 1,2-Dichloroethane | 107-06-2 | 0.5 |
| D029 | 1,1-Dichloroethylene | 75-35-4 | 0.7 |
| D030 | 2,4-Dinitrotoluene | 121-14-2 | [3] 0.13 |
| D012 | Endrin | 72-20-8 | 0.02 |
| D031 | Heptachlor (and its epoxide) | 76-44-8 | 0.008 |
| D032 | Hexachlorobenzene | 118-74-1 | [3] 0.13 |
| D033 | Hexachlorobutadiene | 87-68-3 | 0.5 |
| D034 | Hexachloroethane | 67-72-1 | 3.0 |
| D008 | Lead | 7439-92-1 | 5.0 |
| D013 | Lindane | 58-89-9 | 0.4 |
| D009 | Mercury | 7439-97-6 | 0.2 |
| D014 | Methoxychlor | 72-43-5 | 10.0 |
| D035 | Methyl ethyl ketone | 78-93-3 | 200.0 |
| D036 | Nitrobenzene | 98-95-3 | 2.0 |
| D037 | Pentrachlorophenol | 87-86-5 | 100.0 |
| D038 | Pyridine | 110-86-1 | [3] 5.0 |
| D010 | Selenium | 7782-49-2 | 1.0 |
| D011 | Silver | 7440-22-4 | 5.0 |
| D039 | Tetrachloroethylene | 127-18-4 | 0.7 |
| D015 | Toxaphene | 8001-35-2 | 0.5 |
| D040 | Trichloroethylene | 79-01-6 | 0.5 |
| D041 | 2,4,5-Trichlorophenol | 95-95-4 | 400.0 |
| D042 | 2,4,6-Trichlorophenol | 88-06-2 | 2.0 |
| D017 | 2,4,5-TP (Silvex) | 93-72-1 | 1.0 |
| D043 | Vinyl chloride | 75-01-4 | 0.2 |

[1] Hazardous waste number.

[2] Chemical abstracts service number.
[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

## Subpart D - Lists of Hazardous Wastes

### 261.30 General

*(a)* A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under 260.20 and 260.22.

*(b)* The Department will indicate the basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes: (11/90)
Ignitable Waste (I)
Corrosive Waste (C)
Reactive Waste (R)
Toxicity Characteristic (E)
Acute Hazardous Waste (H)
Toxic Waste (T)

Appendix VII identifies the constituent which caused the Department to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in sections 261.31 and 261.32.

*(c)* Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of SC 44-56-120 and RCRA Section 3010 and certain recordkeeping and reporting requirements under 262 through 266, 268, and 270. (12/92)

*(d)* The following hazardous wastes listed in section 261.31 or 261.32 are subject to the exclusion limits for acutely hazardous wastes established in section 261.5: EPA Hazardous Wastes Numbers F020, F021, F022, F023, F026, and F027.

### 261.31 Hazardous wastes from non-specific sources

*(a)* The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under 260.20 and 260.22 and listed in Appendix IX.

| Industry & EPA HW# | 261.31 Table Hazardous waste from nonspecific sources (11/90, 12/92) | Hazard code |
|---|---|---|
| Generic: F001 | The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. | (T) |
| F002 | The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2- trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1, 1, 2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures. | (T) |
| F003 | The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. | (I) |
| F004 | The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures. | (T) |
| F005 | The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. | (I, T) |
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating a carbon steel; and (6) chemical etching and milling of aluminum. | (T) |
| F007 | Spent cyanide plating bath solutions from electroplating operations. | (R, T) |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. | (R, T) |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. | (R, T) |

| Industry & EPA HW# | 261.31 Table Hazardous waste from nonspecific sources (11/90, 12/92) | Hazard code |
|---|---|---|
| F010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process. | (R, T) |
| F011 | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations. | (R, T) |
| F012 | Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process. | (T) |
| F019 | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. (12/93) | (T) |
| F020 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol). | (H) |
| F021 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. | (H) |
| F022 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. | (H) |
| F023 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4, 5-trichlorophenol.) | (H) |
| F024 | Process wastes, including, but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. [This listing does not include wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in Section 261.31 or 261.32]. (12/93) | (T) |
| F025 | Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and depositions of chlorine substitution. | (T) |
| F026 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions. | (H) |
| F027 | Discarded unused formulations containing tri-, tetra- or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from pre-purified 2,4,5-trichlorophenol as the sole component.). | (H) |
| F028 | Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027. | (T) |
| F032 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 261.35 or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93) | (T) |
| F034 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93) | (T) |
| F035 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93) | (T) |

| Industry & EPA HW# | 261.31 Table Hazardous waste from nonspecific sources (11/90, 12/92) | Hazard code |
|---|---|---|
| F037 | Petroleum refinery primary oil/water/solids separation sludge - Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to: those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under 261.4(a)(12)(i), if those residuals are to be disposed of. (8/00, 9/01) | (T) |
| F038 | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge - Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing (12/92). | (T) |
| F039 | Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F023, F026, F027, and/or F028.) (12/92, 12/93). | (T) |

*(b)* Listing Specific Definitions:

(1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids (12/92).

(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biologic al oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employs a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that:

(A) the unit is an aggressive biological treatment unit as defined in this subsection; and

(B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit. (10/01)

(3)(i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

(B) floats are considered to be generated at the moment they are formed in the top of the unit.

**261.32 Hazardous wastes from specific sources**

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under 260.20 and 260.22 and listed in Appendix IX. (12/92, 5/96, 9/98, 9/01)

| Industry, SC & EPA HW # | 261.32 Hazardous Wastes from specific sources - Hazardous waste | Hazard code |
|---|---|---|
| Wood preservation: | | |
| K001 | Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol. | (T) |
| Inorganic pigments: | | |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigm ents. | (T) |
| K003 | Wastewater treatment sludge from the production of molybdate orange pigments. | (T) |

| | | |
|---|---|---|
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments. | (T) |
| K005 | Wastewater treatment sludge from the production of chrome green pigments. | (T) |
| K006 | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated). | (T) |
| K007 | Wastewater treatment sludge from the production of iron blue pigments. | (T) |
| K008 | Oven residue from the production of chrome oxide green pigments. | (T) |
| Organic chemicals: | | |
| K009 | Distillation bottoms from the production of acetaldehyde from ethylene. | (T) |
| K010 | Distillation side cuts from the production of acetaldehyde from ethylene. | (T) |
| K011 | Bottom stream from the wastewater stripper in the production of acrylonitrile. | (R, T) |
| K013 | Bottom stream from the acetonitrile column in the production of acrylonitrile. | (R, T) |
| K014 | Bottoms from the acetonitrile purification column in the production of acrylonitrile. | (T) |
| K015 | Still bottoms from the distillation of benzyl chloride. | (T) |
| K016 | Heavy ends or distillation residues from the production of carbon tetrachloride. | (T) |
| K017 | Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin. | (T) |
| K018 | Heavy ends from the fractionation column in ethyl chloride production. | (T) |
| K019 | Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production. | (T) |
| K020 | Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production. | (T) |
| K021 | Aqueous spent antimony catalyst waste from fluoromethanes production. | (T) |
| K022 | Distillation bottom tars from the production of phenol/acetone from cumene. | (T) |
| K023 | Distillation light ends from the production of phthalic anhydride from naphthalene. | (T) |
| K024 | Distillation bottoms from the production of phthalic anhydride from naphthalene. | (T) |
| K025 | Distillation bottoms from the production of nitrobenzene by the nitration of benzene. | (T) |
| K026 | Stripping still tails from the production of methy ethyl pyridines. | (T) |
| K027 | Centrifuge and distillation residues from toluene diisocyanate production. | (R, T) |
| K028 | Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane. | (T) |
| K029 | Waste from the product steam stripper in the production of 1,1,1-trichloroethane. | (T) |
| K030 | Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene. | (T) |
| K083 | Distillation bottoms from aniline production. | (T) |
| K085 | Distillation or fractionation column bottoms from the production of chlorobenzenes. | (T) |
| K093 | Distillation light ends from the production of phthalic anhydride from ortho-xylene. | (T) |
| K094 | Distillation bottoms from the production of phthalic anhydride from ortho-xylene. | (T) |
| K095 | Distillation bottoms from the production of 1,1,1-trichloroethane. | (T) |
| K096 | Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane. | (T) |
| K103 | Process residues from aniline extraction from the production of aniline. | (T) |
| K104 | Combined wastewater streams generated from nitrobenzene/aniline production. | (T) |
| K105 | Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes. | (T) |
| K107 | Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazines. | (C, T) |
| K108 | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | (I, T) |
| K109 | Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | (T) |

| | | |
|---|---|---|
| K110 | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | (T) |
| K111 | Product washwaters from the production of dinitrotoluene via nitration of toluene. | (C, T) |
| K112 | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene. | (T) |
| K113 | Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | (T) |
| K114 | Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | (T) |
| K115 | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | (T) |
| K116 | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine. | (T) |
| K117 | Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene. | (T) |
| K118 | Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. | (T) |
| K136 | Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. | (T) |
| K149 | Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.). | (T) |
| K150 | Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | (T) |
| K151 | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | (T) |
| K156 | Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.). | (T) |
| K157 | Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.). | (T) |
| K158 | Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.). | (T) |
| K159 | Organics from the treatment of thiocarbamate wastes | (T) |
| K161 | Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.). | (R, T) |

| | | |
|---|---|---|
| K174 | Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met. (6/02) | (T) |
| K175 | Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process. (6/02) | (T) |
| Inorganic chemicals: | | |
| K071 | Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used. | (T) |
| K073 | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production. | (T) |
| K106 | Wastewater treatment sludge from the mercury cell process in chlorine production. | (T) |
| K176 | Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03) | (E) |
| K177 | Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03) | (T) |
| K178 | Residues from manufacturing and manufacturing site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process. (6/03) | (T) |
| Pesticides: | | |
| K031 | By-product salts generated in the production of MSMA and cacodylic acid. | (T) |
| K032 | Wastewater treatment sludge from the production of chlordane. | (T) |
| K033 | Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane. | (T) |
| K034 | Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane. | (T) |
| K035 | Wastewater treatment sludges generated in the production of creosote. | (T) |
| K036 | Still bottoms from toluene reclamation distillation in the production of disulfoton. | (T) |
| K037 | Wastewater treatment sludges from the production of disulfoton. | (T) |
| K038 | Wastewater from the washing and stripping of phorate production. | (T) |
| K039 | Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate. | (T) |
| K040 | Wastewater treatment sludge from the production of phorate. | (T) |
| K041 | Wastewater treatment sludge from the production of toxaphene. | (T) |
| K042 | Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T. | (T) |
| K043 | 2,6-Dichlorophenol waste from the production of 2,4-D. | (T) |
| K097 | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. | (T) |
| K098 | Untreated process wastewater from the production of toxaphene. | (T) |
| K099 | Untreated wastewater from the production of 2,4-D. | (T) |

| | | |
|---|---|---|
| K123 | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt. | (T) |
| K124 | Reactor vent scrubber water from the production of ethylenebisdithiocarb amic acid and its salts. | (C, T) |
| K125 | Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts. | (T) |
| K126 | Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts. | (T) |
| K131 | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide. | (C, T) |
| K132 | Spent absorbent and wastewater separator solids from the production of methyl bromide. | (T) |
| Explosives: | | |
| K044 | Wastewater treatment sludges from the manufacturing and processing of explosives. | (R) |
| K045 | Spent carbon from the treatment of wastewater containing explosives. | (R) |
| K046 | Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds. | (T) |
| K047 | Pink/red water from TNT operations. | (R) |
| Petroleum refining: | | |
| K048 | Dissolved air flotation (DAF) float from the petroleum refining industry. | (T) |
| K049 | Slop oil emulsion solids from the petroleum refining industry. | (T) |
| K050 | Heat exchanger bundle cleaning sludge from the petroleum refining industry. | (T) |
| K051 | API separator sludge from the petroleum refining industry. | (T) |
| K052 | Tank bottoms (leaded) from the petroleum refining industry. | (T) |
| K169 | Crude oil storage tank sediment from petroleum refining operations (8/00) | (T) |
| K170 | Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (8/00) | (T) |
| K171 | Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media) | (I, T) |
| K172 | Spent Hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media.) (8/00) | (I, T) |
| Iron and Steel | | |
| K061 | Emission control dust/sludge from the primary p roduction of steel in electric furnaces. | (T) |
| K062 | Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332). | (C, T) |
| Primary aluminum: | | |
| K088 | Spent potliners from primary aluminum reduction. | (T) |
| Secondary lead: | | |
| K069 | Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register). | (T) |
| K100 | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. | (T) |
| Veterinary pharmaceuticals: | | |
| K084 | Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | (T) |
| K101 | Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | (T) |
| K102 | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | (T) |
| | | |
| Ink formulation: | | |

| | | |
|---|---|---|
| K086 | Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. | (T) |
| Coking: | | |
| K060 | Ammonia still lime sludge from coking operations. | (T) |
| K087 | Decanter tank tar sludge from coking operations(6/95). | (T) |
| K141 | Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations). | (T) |
| K142 | Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal. | (T) |
| K143 | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal. | (T) |
| K144 | Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal. | (T) |
| K145 | Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal. | (T) |
| K147 | Tar storage tank residues from coal tar refining. | (T) |
| K148 | Residues from coal tar distillation, including but not limited to, still bottoms. | (T) |
| Organotins: | | |
| K900 | Waste residues from the manufacture of organotin compounds which contain tri-(organo) substituted tin compounds, to include tributyltin and its analogs. (5/02) | (T) |

**261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof** (11/90)

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in section 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

*(a)* Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

*(b)* Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section. (12/92)

*(c)* Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, unless the container is empty as defined in Section 261.7(b). (12/92).

[Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, reuse, recycling or reclamation, the Department considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue (12/92).]

*(d)* Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a

chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either sections 261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part. (12/92)].

*(e)* The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in section 261.5(e).

[Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity (12/92, 12/93).]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

| HW # | Chemical abstracts # | 261.33(e) Lists of Acute Hazardous Wastes<br>Substance (11/90, 12/92, 5/96) |
|---|---|---|
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P002 | 591-08-2 | Acetamide, N-(aminothioxomethyl)- |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P003 | 107-02-8 | Acrolein |
| P070 | 116-06-3 | Aldicarb |
| P203 | 1646-88-4 | Aldicarb sulfone.(5/96) |
| P004 | 309-00-2 | Aldrin |
| P005 | 107-18-6 | Allyl alcohol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P008 | 504-24-5 | 4-Aminopyridine |
| P009 | 131-74-8 | Ammonium picrate (R) |
| P119 | 7803-55-6 | Ammonium vanadate |
| P099 | 506-61-6 | Argentate(1-), bis(cyano-C-), potassium |
| P010 | 7778-39-4 | Arsenic acid $H_3AsO_4$ |
| P012 | 1327-53-3 | Arsenic oxide $As_2O_3$ |
| P011 | 1303-28-2 | Arsenic oxide $As_2O_5$ |
| P011 | 1303-28-2 | Arsenic pentoxide |
| P012 | 1327-53-3 | Arsenic trioxide |
| P038 | 692-42-2 | Arsine, diethyl- |
| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P054 | 151-56-4 | Aziridine |
| P067 | 75-55-8 | Aziridine, 2-methyl- |
| P013 | 542-62-1 | Barium cyanide |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P028 | 100-44-7 | Benzene, (chloromethyl) |
| P042 | 51-43-4 | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl-], (R) |
| P046 | 122-09-8 | Benzeneethanamine, alpha, alpha-dimethyl- |
| P014 | 108-98-5 | Benzenethiol |
| P127 | 1563-66-2 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.(5/96) |
| P188 | 57-64-7 | Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1, 3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1). (5/96) |
| P001 | [1]81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3% |
| P028 | 100-44-7 | Benzyl chloride |
| P015 | 7440-41-7 | Beryllium powder |
| P017 | 598-31-2 | Bromoacetone |
| P018 | 357-57-3 | Brucine |
| P045 | 39196-18-4 | 2-Butanone, 3,3-dimethyl-1-(methylthio)- O-[(methylamino)carbonyl]oxime |
| P021 | 592-01-8 | Calcium cyanide |
| P021 | 592-01-8 | Calcium cyanide $Ca(CN)_2$ |

| HW # | Chemical abstracts # | 261.33(e) Lists of Acute Hazardous Wastes<br>Substance (11/90, 12/92, 5/96) |
|---|---|---|
| P022 | 75-15-0 | Carbon disulfide |
| P189 | 55285-14-8 | Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester (5/96) |
| P191 | 644-64-4 | Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester. (5/96) |
| P192 | 119-38-0 | Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.(5/96) |
| P190 | 1129-41-5 | Carbamic acid, methyl-, 3-methylphenyl ester. (5/96) |
| P127 | 1563-66-2 | Carbofuran. (5/96) |
| P095 | 75-44-5 | Carbonic dichloride |
| P189 | 55285-14-8 | Carbosulfan. (5/96) |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P024 | 106-47-8 | p-Chloroaniline |
| P026 | 5344-82-1 | 1-(o-Chlorophenyl)thiourea |
| P027 | 542-76-7 | 3-Chloropropionitrile |
| P029 | 544-92-3 | Copper cyanide |
| P029 | 544-92-3 | Copper cyanide Cu(CN) |
| P202 | 64-00-6 | m-Cumenyl methylcarbamate.(5/96) |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Cyanogen |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride (CN)Cl |
| P034 | 131-89-5 | 2-Cyclohexyl-4,6-dinitrophenol |
| P016 | 542-88-1 | Dichloromethyl ether |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P038 | 692-42-2 | Diethylarsine |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P040 | 297-97-2 | O,O-Diethyl O-pyrazinyl phosphorothioate |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P004 | 309-00-2 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-, hexahydro-,(1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- |
| P060 | 465-73-6 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)- |
| P037 | 60-57-1 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6, 6a,7,7a-octahydro-,(1aalpha,2beta,2aalpha,3beta,6beta,6aalpha, 7beta,7aalpha)- |
| P051 | [1]72-20-8 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6, 6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha,6abeta, 7beta,7aalpha)-, & metabolites |
| P044 | 60-51-5 | Dimethoate |
| P191 | 644-64-4 | Dimetilan.(5/96) |
| P046 | 122-09-8 | alpha,alpha-Dimethylphenethylamine |
| P047 | [1]534-52-1 | 4,6-Dinitro-o-cresol, & salts |
| P048 | 51-28-5 | 2,4-Dinitrophenol |
| P020 | 88-85-7 | Dinoseb |
| P085 | 152-16-9 | Diphosphoramide, octamethyl- |
| P111 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P039 | 298-04-4 | Disulfoton |
| P049 | 541-53-7 | Dithiobiuret |
| P185 | 26419-73-8 | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime. (5/96) |
| P050 | 115-29-7 | Endosulfan |
| P088 | 145-73-3 | Endothall |
| P051 | 72-20-8 | Endrin |
| P051 | 72-20-8 | Endrin, & metabolites |
| P042 | 51-43-4 | Epinephrine |
| P031 | 460-19-5 | Ethanedinitrile |
| P194 | 23135-22-0 | Ethanimidothioc acid, 2- (dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester.(5/96) |
| P066 | 16752-77-5 | Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester |
| P101 | 107-12-0 | Ethyl cyanide |
| P054 | 151-56-4 | Ethyleneimine |
| P097 | 52-85-7 | Famphur |
| P056 | 7782-41-4 | Fluorine |
| P057 | 640-19-7 | Fluoroacetamide |
| P198 | 23422-53-9 | Formetanate hydrochloride. (5/96) |
| P197 | 17702-57-7 | Formparanate. (5/96) |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| P065 | 628-86-4 | Fulminic acid, mercury(2+) salt (R,T) |
| P059 | 76-44-8 | Heptachlor |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| P116 | 79-19-6 | Hydrazinecarbothioamide |

| HW # | Chemical abstracts # | 261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96) |
|---|---|---|
| P068 | 60-34-4 | Hydrazine, methyl- |
| P063 | 74-90-8 | Hydrocyanic acid |
| P063 | 74-90-8 | Hydrogen cyanide |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P060 | 465-73-6 | Isodrin |
| P192 | 119-38-0 | Isolan. (5/96) |
| P202 | 64-00-6 | 3-Isopropylphenyl N-methylcarbamate.(5/96) |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| P196 | 15339-36-3 | Manganese, bis(dimethylcarbamodithioato-S,S')-, (5/96) |
| P196 | 15339-36-3 | Manganese dimethyldithiocarbamate. (5/96) |
| P092 | 62-38-4 | Mercury, (acetato-O)phenyl- |
| P065 | 628-86-4 | Mercury fulminate (R,T) |
| P082 | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| P064 | 624-83-9 | Methane, isocyanato- |
| P016 | 542-88-1 | Methane, oxybis[chloro- |
| P112 | 509-14-8 | Methane, tetranitro- (R) |
| P198 | 23422-53-9 | Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride (5/96) |
| P197 | 17702-57-7 | Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl] oxy]phenyl]- (5/96) |
| P199 | 2032-65-7 | Methiocarb. (5/96) |
| P118 | 75-70-7 | Methanethiol, trichloro- |
| P050 | 115-29-7 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10- hexachloro-1,5,5a,6, 9,9a-hexahydro-,3-oxide |
| P059 | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| P066 | 16752-77-5 | Methomyl |
| P068 | 60-34-4 | Methyl hydrazine |
| P064 | 624-83-9 | Methyl isocyanate |
| P069 | 75-86-5 | 2-Methyllactonitrile |
| P071 | 298-00-0 | Methyl parathion |
| P190 | 1129-41-5 | Metolcarb. (5/96) |
| P128 | 315-18-4 | Mexacarbate. (4/96) |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P073 | 13463-39-3 | Nickel carbonyl |
| P073 | 13463-39-3 | Nickel carbonyl $Ni(CO)_4$, (T-4)- |
| P074 | 557-19-7 | Nickel cyanide |
| P074 | 557-19-7 | Nickel cyanide $Ni(CN)_2$ |
| P075 | [1]54-11-5 | Nicotine, & salts |
| P076 | 10102-43-9 | Nitric oxide |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen dioxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P078 | 10102-44-0 | Nitrogen oxide $NO_2$ |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | N-Nitrosomethylvinylamine |
| P085 | 152-16-9 | Octamethylpyrophosphoramide |
| P087 | 20816-12-0 | Osmium oxide $OsO_4$, (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid |
| P194 | 23135-22-0 | Oxamyl. (5/96) |
| P089 | 56-38-2 | Parathion |
| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4,6-dinitro- |
| P048 | 51-28-5 | Phenol, 2,4-dinitro |
| P047 | [1]534-52-1 | Phenol, 2-methyl-4,6-dinitro, & salts |
| P020 | 88-85-7 | Phenol, 2-(1-methylpropyl)4,6-dinitro- |
| P009 | 131-74-8 | Phenol, 2,4,6-trinitro-, ammonium salt (R) |
| P128 | 315-18-4 | Phenol, 4-(dimethylamino)-3,5-dimethyl-,methylcarbamate (ester). (5/96) |
| P199 | 2032-65-7 | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate (5/96) |
| P202 | 64-00-6 | Phenol, 3-(1-methylethyl)-, methyl carbamate. (5/96) |
| P201 | 2631-37-0 | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate. (5/96) |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Phenylthiourea |
| P094 | 298-02-2 | Phorate |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Phosphine |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P039 | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester |

| HW # | Chemical abstracts # | 261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96) |
|---|---|---|
| P094 | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl]ester |
| P044 | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis(1-methylethyl) ester |
| P089 | 56-38-2 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester |
| P040 | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,Odimethyl ester |
| P071 | 298-00-0 | Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester |
| P204 | 57-47-6 | Physostigmine. (5/96) |
| P188 | 57-64-7 | Physostigmine salicylate. (5/96) |
| P110 | 78-00-2 | Plumbane, tetraethyl- |
| P098 | 151-50-8 | Potassium cyanide |
| P098 | 151-50-8 | Potassium cyanide K (CN) |
| P099 | 506-61-6 | Potassium silver cyanide |
| P201 | 2631-37-0 | Promecarb (5/96) |
| P203 | 1646-88-4 | Propanal,2-methyl-2-(methyl-sulfonyl)-,O-[(methylamino)carbonyl] oxime. (5/96) |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime |
| P101 | 107-12-0 | Propanenitrile |
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy -2-methyl |
| P081 | 55-63-0 | 1,2,3-Propanetriol, trinitrate (R) |
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| P102 | 107-19-7 | Propargyl alcohol |
| P003 | 107-02-8 | 2-Propenal |
| P005 | 107-18-6 | 2-Propen-1-ol |
| P067 | 75-55-8 | 1,2 Propylenimine |
| P102 | 107-19-7 | 2-Propyn-1-ol |
| P008 | 504-24-5 | 4-Pyridinamine |
| P075 | [1]54-11-5 | Pyridine, 3-(1-methyl-2-pyrrolidinyl),- (S)-, & salts |
| P204 | 57-47-6 | Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- (5/96) |
| P114 | 12039-52-0 | Selenious acid, dithallium(1+) salt |
| P103 | 630-10-4 | Selenourea |
| P104 | 506-64-9 | Silver cyanide |
| P104 | 506-64-9 | Silver cyanide Ag (CN) |
| P105 | 26628-22-8 | Sodium azide |
| P106 | 143-33-9 | Sodium cyanide |
| P106 | 143-33-9 | Sodium cyanide Na (CN) |
| P108 | [1]57-24-9 | Strychnidin-10-one, & salts |
| P018 | 357-57-3 | Strychnidin-10-one, 2,3-dimethoxy - |
| P108 | [1]57-24-9 | Strychnine, & salts |
| P115 | 7446-18-6 | Sulfuric acid, dithallium(1+) salt |
| P109 | 3689-24-5 | Tetraethyldithiopyrophosphate |
| P110 | 78-00-2 | Tetraethyl lead |
| P111 | 107-49-3 | Tetraethyl pyrophosphate |
| P112 | 509-14-8 | Tetranitromethane (R) |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| P113 | 1314-32-5 | Thallic oxide |
| P113 | 1314-32-5 | Thallium oxide $Tl_2O_3$ |
| P114 | 12039-52-0 | Thallium(I) selenite |
| P115 | 7446-18-6 | Thallium(I) sulfate |
| P109 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P045 | 39196-18-4 | Thiofanox |
| P049 | 541-53-7 | Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$ |
| P014 | 108-98-5 | Thiophenol |
| P116 | 79-19-6 | Thiosemicarbazide |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P093 | 103-85-5 | Thiourea, phenyl- |
| P185 | 26419-73-8 | Tirpate. (5/96) |
| P123 | 8001-35-2 | Toxaphene |
| P118 | 75-70-7 | Trichloromethanethiol |
| P119 | 7803-55-6 | Vanadic acid, ammonium salt |
| P120 | 1314-62-1 | Vanadium oxide $V_2O_5$ |
| P120 | 1314-62-1 | Vanadium pentoxide |
| P084 | 4549-40-0 | Vinylamine, N-methyl-N-nitroso- |

| HW # | Chemical abstracts # | 261.33(e) Lists of Acute Hazardous Wastes<br>Substance (11/90, 12/92, 5/96) |
|---|---|---|
| P001 | [1]81-81-2 | Warfarin, & salts, when present at concentrations greater than 0.3% |
| P205 | 137-30-4 | Zinc, bis(dimethylcarbamodithioato-S,S')-, (5/96) |
| P121 | 557-21-1 | Zinc cyanide |
| P121 | 557-21-1 | Zinc cyanide $Zn(CN)_2$ |
| P122 | 1314-84-7 | Zinc phosphide $Zn_3P_2$, when present at concentrations greater than 10% (R,T) |
| P205 | 137-30-4 | Ziram. (5/96) |

FOOTNOTE: [1]CAS Number given for parent compound only.

*(f)* The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in Section 261.5 (a) and (g). (5/96)

[Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity (12/92; 5/96).]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U394 | 30558-43-1 | A2213 (5/96) |
| U001 | 75-07-0 | Acetaldehyde (I) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U187 | 62-44-2 | Acetamide, N-(4-ethoxyphenyl)- |
| U005 | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| U240 | [1]94-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts & esters |
| U112 | 141-78-6 | Acetic acid ethyl ester (I) |
| U144 | 301-04-2 | Acetic acid, lead(2+) salt |
| U214 | 563-68-8 | Acetic acid, thallium(1+) salt |
| see F027 | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| U002 | 67-64-1 | Acetone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Acetophenone |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U009 | 107-13-1 | Acrylonitrile |
| U011 | 61-82-5 | Amitrole |
| U012 | 62-53-3 | Aniline (I,T) |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U014 | 492-80-8 | Auramine |
| U015 | 115-02-6 | Azaserine |
| U010 | 50-07-7 | Azirino[2',3':3,4]pyrrolo(1,2-a)indole-4,7- dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b- hexahydro-8a-methoxy -5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]- |
| U280 | 101-27-9 | Barban. (5/96) |
| U278 | 22781-23-3 | Bendiocarb. (5/96) |
| U364 | 22961-82-6 | Bendiocarb phenol. (5/96) |
| U271 | 17804-35-2 | Benomyl. (5/96) |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U016 | 225-51-4 | Benz[c]acridine |
| U017 | 98-87-3 | Benzal chloride |
| U192 | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2- propynyl)- |
| U018 | 56-55-3 | Benz[a]anthracene |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Benzenamine, 4,4'-carbonimidoylbis[N,N- dimethyl- |
| U049 | 3165-93-3 | Benzenamine, 4-chloro-2-methyl-, hydrochloride |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis[2-chloro- |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| U019 | 71-43-2 | Benzene (I,T) |
| U038 | 510-15-6 | Benzeneacetic acid, 4-chloro-alpha-(4- chlorophenyl)-alpha-hydroxy -, ethyl ester |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy - |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2- chloroethyl)amino]- |
| U037 | 108-90-7 | Benzene, chloro- |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |
| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- |
| U017 | 98-87-3 | Benzene, (dichloromethyl)- |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl- (R,T) |
| U239 | 1330-20-7 | Benzene, dimethyl- (I,T) |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U056 | 110-82-7 | Benzene, hexahydro- (I) |
| U220 | 108-88-3 | Benzene, methyl- |
| U105 | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| U106 | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| U055 | 98-82-8 | Benzene, (1-methylethyl)- (I) |
| U169 | 98-95-3 | Benzene, nitro- |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U185 | 82-68-8 | Benzene, pentachloronitro- |
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- chloro- |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy - |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U021 | 92-87-5 | Benzidine |
| U202 | [1]81-07-2 | 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts |
| U278 | 22781-23-3 | 1,3Benzodioxol-4ol, 2,2dimethyl, methyl carbamate. (5/96) |
| U364 | 22961-82-6 | 1,3Benzodioxol4ol, 2,2dimethyl, |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U367 | 1563-38-8 | 7Benzofuranol, 2,3-dihydro2,2-dimethyl (5/96) |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U064 | 189-55-9 | Benzo[rst]pentaphene |
| U248 | [1]81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy -3-(3-oxo-1-phenyl- butyl)-, & salts, when present at concentrations of 0.3% or less |
| U022 | 50-32-8 | Benzo[a]pyrene |
| U197 | 106-51-4 | p-Benzoquinone |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U021 | 92-87-5 | [1,1'-Biphenyl]-4,4'-diamine |
| U073 | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| U091 | 119-90-4 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy - |
| U095 | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| U225 | 75-25-2 | Bromoform |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U031 | 71-36-3 | 1-Butanol (I) |
| U159 | 78-93-3 | 2-Butanone (I,T) |
| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U053 | 4170-30-3 | 2-Butenal |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro- (I,T) |
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy -2-(1-methoxyethyl)-3-methyl-1- oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H- pyrrolizin-1-yl ester,... [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]- |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U031 | 71-36-3 | n-Butyl alcohol (I) |
| U136 | 75-60-5 | Cacodylic acid |
| U032 | 13765-19-0 | Calcium chromate |
| U372 | 10605-21-7 | Carbamic acid, 1H-benzimidazol-2-yl, methyl |
| U271 | 17804-35-2 | Carbamic acid, [1-[(butylamino)carbonyl]-1H- benzimidazol-2-yl]-, methyl ester. (5/96) |
| U280 | 101-27-9 | Carbamic acid, (3-chlorophenyl)-, 4-chloro-2- butynyl ester. (5/96) |
| U373 | 122-42-9 | Carbamic acid, phenyl-, 1-methylethyl ester. |
| U409 | 23564-05-8 | Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester. (5/96) |
| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-, ethyl ester |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U114 | [1]111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters |
| U062 | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester |
| U389 | 2303-17-5 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester. (5/96) |
| U387 | 52888-80-9 | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester. (5/96) |
| U279 | 63-25-2 | Carbaryl. (5/96) |
| U372 | 10605-21-7 | Carbendazim. (5/96) |
| U367 | 1563-38-8 | Carbofuran phenol. (5/96) |
| U215 | 6533-73-9 | Carbonic acid, dithallium(1+) salt |
| U033 | 353-50-4 | Carbonic difluoride |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (I, T) |
| U033 | 353-50-4 | Carbon oxyfluoride (R, T) |
| U211 | 56-23-5 | Carbon tetrachloride |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Chlorambucil |
| U036 | 57-74-9 | Chlordane, alpha & gamma isomers |
| U026 | 494-03-1 | Chlornaphazin |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Chlorobenzilate |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U044 | 67-66-3 | Chloroform |
| U046 | 107-30-2 | Chloromethyl methyl ether |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U048 | 95-57-8 | o-Chlorophenol |
| U049 | 3165-93-3 | 4-Chloro-o-toluidine, hydrochloride |
| U032 | 13765-19-0 | Chromic acid $H_2CrO_4$, calcium salt |
| U050 | 218-01-9 | Chrysene |
| U051 | ---- | Creosote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U053 | 4170-30-3 | Crotonaldehyde |
| U055 | 98-82-8 | Cumene (I) |
| U246 | 506-68-3 | Cyanogen bromide (CN)Br |
| U197 | 106-51-4 | 2,5-Cyclohexadiene-1,4-dione |
| U056 | 110-82-7 | Cyclohexane (I) |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U130 | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U058 | 50-18-0 | Cyclophosphamide |
| U240 | [1]94-75-7 | 2,4-D, salts & esters |
| U059 | 20830-81-3 | Daunomycin |
| U060 | 72-54-8 | DDD |
| U061 | 50-29-3 | DDT |
| U062 | 2303-16-4 | Diallate |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Dibenzo[a,i]pyrene |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | o-Dichlorobenzene |
| U071 | 541-73-1 | m-Dichlorobenzene |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I, T) |
| U075 | 75-71-8 | Dichlorodifluoromethane |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U079 | 156-60-5 | 1,2-Dichloroethylene |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U025 | 111-44-4 | Dichloroethyl ether |
| U027 | 108-60-1 | Dichloroisopropyl ether |
| U024 | 111-91-1 | Dichloromethoxy ethane |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I, T) |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U028 | 117-81-7 | Diethylhexyl phthalate |
| U395 | 5952-26-1 | Diethylene glycol, dicarbamate. (5/96) |
| U086 | 1615-80-1 | N,N'-Diethylhydrazine |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U088 | 84-66-2 | Diethyl phthalate |
| U089 | 56-53-1 | Diethylstilbesterol |
| U090 | 94-58-6 | Dihydrosafrole |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Dimethylamine (I) |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a]anthracene |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | alpha,alpha-Dimethylbenzylhydroperoxide (R) |
| U097 | 79-44-7 | Dimethylcarbamoyl chloride |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U102 | 131-11-3 | Dimethyl phthalate |
| U103 | 77-78-1 | Dimethyl sulfate |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |
| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U110 | 142-84-7 | Dipropylamine (I) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U041 | 106-89-8 | Epichlorohydrin |
| U001 | 75-07-0 | Ethanal (I) |
| U174 | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| U404 | 121-44-8 | Ethanamine, N,N-diethyl- (5/96) |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2- pyridinyl-N'-(2-thienylmethyl)- |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis-(I) |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U218 | 62-55-5 | Ethanethioamide |
| U226 | 71-55-6 | Ethane, 1,1,1-trichloro- |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U410 | 59669-26-0 | Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester (5/96) |
| U394 | 30558-43-1 | Ethanimidothioic acid, 2-(dimethylamino)-N- hydroxy-2-oxo-, methyl ester. |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |
| U395 | 5952-26-1 | Ethanol, 2,2'-oxybis-, dicarbamate. (5/96) |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U043 | 75-01-4 | Ethene, chloro- |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy)- |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U228 | 79-01-6 | Ethene, trichloro- |
| U112 | 141-78-6 | Ethyl acetate (I) |
| U113 | 140-88-5 | Ethyl acrylate (I) |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U117 | 60-29-7 | Ethyl ether (I) |
| U114 | [1]111-54-6 | Ethylenebisdithiocarbamic acid, salts & esters |
| U067 | 106-93-4 | Ethylene dibromide |
| U077 | 107-06-2 | Ethylene dichloride |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U115 | 75-21-8 | Ethylene oxide (I, T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U076 | 75-34-3 | Ethylidene dichloride |
| U118 | 97-63-2 | Ethyl methacrylate |
| U119 | 62-50-0 | Ethyl methanesulfonate |
| U120 | 206-44-0 | Fluoranthene |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C, T) |
| U124 | 110-00-9 | Furan (I) |
| U125 | 98-01-1 | 2-Furancarboxaldehyde (I) |
| U147 | 108-31-6 | 2,5-Furandione |
| U213 | 109-99-9 | Furan, tetrahydro-(I) |
| U125 | 98-01-1 | Furfural (I) |
| U124 | 110-00-9 | Furfuran (I) |
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(3-methyl-3- nitrosoureido)-, D- |
| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)- carbonyl]amino]- |
| U126 | 765-34-4 | Glycidylaldehyde |
| U163 | 70-25-7 | Guanidine, N-methyl-N'-nitro-N-nitroso- |
| U127 | 118-74-1 | Hexachlorobenzene |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Hexachlorophene |
| U243 | 1888-71-7 | Hexachloropropene |
| U133 | 302-01-2 | Hydrazine (R, T) |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U109 | 122-66-7 | Hydrazine, 1,2-diphenyl- |
| U134 | 7664-39-3 | Hydrofluoric acid (C, T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C, T) |
| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide $H_2S$ |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl- (R) |
| U116 | 96-45-7 | 2-Imidazolidinethione |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |
| U140 | 78-83-1 | Isobutyl alcohol (I, T) |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U143 | 303-34-4 | Lasiocarpine |
| U144 | 301-04-2 | Lead acetate |
| U146 | 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| U145 | 7446-27-7 | Lead phosphate |
| U146 | 1335-32-6 | Lead subacetate |
| U129 | 58-89-9 | Lindane |
| U163 | 70-25-7 | MNNG |
| U147 | 108-31-6 | Maleic anhydride |
| U148 | 123-33-1 | Maleic hydrazide |
| U149 | 109-77-3 | Malononitrile |
| U150 | 148-82-3 | Melphalan |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I, T) |
| U092 | 124-40-3 | Methanamine, N-methyl- (I) |
| U029 | 74-83-9 | Methane, bromo- |
| U045 | 74-87-3 | Methane, chloro- (I, T) |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U068 | 74-95-3 | Methane, dibromo- |
| U080 | 75-09-2 | Methane, dichloro- |
| U075 | 75-71-8 | Methane, dichlorodifluoro- |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U138 | 74-88-4 | Methane, iodo- |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U153 | 74-93-1 | Methanethiol (I, T) |
| U225 | 75-25-2 | Methane, tribromo- |
| U044 | 67-66-3 | Methane, trichloro- |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U036 | 57-74-9 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7,7a-hexahydro- |
| U154 | 67-56-1 | Methanol (I) |
| U155 | 91-80-5 | Methapyrilene |
| U142 | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2- one, 1,1a,3,3a,4,5,5,5a,5b,6- decachlorooctahydro- |
| U247 | 72-43-5 | Methoxychlor |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U029 | 74-83-9 | Methyl bromide |
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U045 | 74-87-3 | Methyl chloride (I, T) |
| U156 | 79-22-1 | Methyl chlorocarbonate (I, T) |
| U226 | 71-55-6 | Methyl chloroform |
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) |
| U068 | 74-95-3 | Methylene bromide |
| U080 | 75-09-2 | Methylene chloride |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I, T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R, T) |
| U138 | 74-88-4 | Methyl iodide |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |
| U162 | 80-62-6 | Methyl methacrylate (I, T) |
| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U164 | 56-04-2 | Methylthiouracil |
| U010 | 50-07-7 | Mitomycin C |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, 8-acetyl-10-[(3- amino-2,3,6-trideoxy)-alpha-L-lyxo- hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy -1-methoxy -, (8S-cis)- |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U026 | 494-03-1 | Naphthalenamine, N,N'-bis(2-chloroethyl)- |
| U165 | 91-20-3 | Naphthalene |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'- dimethyl[1,1'-biphenyl]-4,4'- diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt |
| U279 | 63-25-2 | 1-Naphthalenol, methylcarbamate. (5/96) |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U217 | 10102-45-1 | Nitric acid, thallium(1+) salt |
| U169 | 98-95-3 | Nitrobenzene (I, T) |
| U170 | 100-02-7 | p-Nitrophenol |
| U171 | 79-46-9 | 2-Nitropropane (I, T) |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |
| U174 | 55-18-5 | N-Nitrosodiethylamine |
| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U193 | 1120-71-4 | 1,2-Oxathiolane, 2,2-dioxide |
| U058 | 50-18-0 | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N- bis(2-chloroethyl)tetrahydro-, 2-oxide |
| U115 | 75-21-8 | Oxirane (I, T) |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U182 | 123-63-7 | Paraldehyde |
| U183 | 608-93-5 | Pentachlorobenzene |
| U184 | 76-01-7 | Pentachloroethane |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| See F027 | 87-86-5 | Pentachlorophenol |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U048 | 95-57-8 | Phenol, 2-chloro- |
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U052 | 1319-77-3 | Phenol, methyl- |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| U411 | 114-26-1 | Phenol, 2-(1-methylethoxy)-, methylcarbamate. (5/96) |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| See F027 | 87-86-5 | Phenol, pentachloro- |
| See F027 | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| See F027 | 95-95-4 | Phenol, 2,4,5-trichloro- |
| See F027 | 88-06-2 | Phenol, 2,4,6-trichloro- |
| U150 | 148-82-3 | L-Phenylalanine, 4-[bis(2-chloroethyl)amino]- |
| U145 | 7446-27-7 | Phosphoric acid, lead(2+) salt (2:3) |
| U087 | 3288-58-2 | Phosphorodithioic acid, O,O-diethyl S-methyl ester |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U190 | 85-44-9 | Phthalic anhydride |
| U191 | 109-06-8 | 2-Picoline |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U192 | 23950-58-5 | Pronamide |
| U194 | 107-10-8 | 1-Propanamine (I, T) |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U110 | 142-84-7 | 1-Propanamine, N-propyl- (I) |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U083 | 78-87-5 | Propane, 1,2-dichloro- |
| U149 | 109-77-3 | Propanedinitrile |
| U171 | 79-46-9 | Propane, 2-nitro- (I, T) |
| U027 | 108-60-1 | Propane, 2,2'-oxybis[2-chloro- |
| U193 | 1120-71-4 | 1,3-Propane sultone |
| See F027 | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl- (I, T) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U007 | 79-06-1 | 2-Propenamide |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| U009 | 107-13-1 | 2-Propenenitrile |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I, T) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |
| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester (I, T) |
| U373 | 112-42-9 | Propham. (5/96) |
| U411 | 114-26-1 | Propoxur. (5/96) |
| U194 | 107-10-8 | n-Propylamine (I, T) |
| U083 | 78-87-5 | Propylene dichloride |
| U387 | 52888-80-9 | Prosulfocarb. (5/96) |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U196 | 110-86-1 | Pyridine |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]- |
| U164 | 56-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2- thioxo- |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso- |
| U200 | 50-55-5 | Reserpine |
| U201 | 108-46-3 | Resorcinol |
| U202 | [1]81-07-2 | Saccharin, & salts |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenious acid |
| U204 | 7783-00-8 | Selenium dioxide |

| 261.33(f) Lists of Subpart D Toxic Hazardous Wastes | | |
|---|---|---|
| **HW #** | **CAS#** | **Substance** (11/90; 12/92; 12/93; 5/96, 9/98) |
| U205 | 7488-56-4 | Selenium sulfide |
| U205 | 7488-56-4 | Selenium sulfide $SeS_2$ (R, T) |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |
| See F027 | 93-72-1 | Silvex (2,4,5-TP) |
| U206 | 18883-66-4 | Streptozotocin |
| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| See F027 | 93-76-5 | 2,4,5-T |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U210 | 127-18-4 | Tetrachloroethylene |
| See F027 | 58-90-2 | 2,3,4,6-Tetrachlorophenol |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U214 | 563-68-8 | Thallium(I) acetate |
| U215 | 6533-73-9 | Thallium(I) carbonate |
| U216 | 7791-12-0 | Thallium(I) chloride |
| U216 | 7791-12-0 | Thallium chloride TlCl |
| U217 | 10102-45-1 | Thallium(I) nitrate |
| U218 | 62-55-5 | Thioacetamide |
| U410 | 59669-26-0 | Thiodicarb. (5/96) |
| U153 | 74-93-1 | Thiomethanol (I, T) |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$,tetramethyl- |
| U409 | 23564-05-8 | Thiophanate-methyl. (5/96) |
| U219 | 62-56-6 | Thiourea |
| U244 | 137-26-8 | Thiram |
| U220 | 108-88-3 | Toluene |
| U221 | 25376-45-8 | Toluenediamine |
| U223 | 26471-62-5 | Toluene diisocyanate (R, T) |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | p-Toluidine |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U389 | 2303-17-5 | Triallate. (5/96) |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U228 | 79-01-6 | Trichloroethylene |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| See F027 | 95-95-4 | 2,4,5-Trichlorophenol |
| See F027 | 88-06-2 | 2,4,6-Trichlorophenol |
| U404 | 121-44-8 | Triethylamine.(5/96) |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R, T) |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | Uracil mustard |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U043 | 75-01-4 | Vinyl chloride |
| U248 | [1]81-81-2 | Warfarin, & salts, when present at concentrations of 0.3% or less |
| U239 | 1330-20-7 | Xylene (I) |
| U200 | 50-55-5 | Yohimban-16-carboxylic acid, 11,17- dimethoxy -18-[(3,4,5- trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)- |
| U249 | 1314-84-7 | Zinc phosphide $Zn_3P_2$, when present at concentrations of 10% or less |

[1]CAS Number given for parent compound only.

## 261.34 [Reserved]

## 261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement

*(a)* Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of paragraphs (b) and (c) of this section. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

*(b)* Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or

eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(1) Generators shall do one of the following:

(i) Prepare and follow an equipment cleaning plan and clean equipment in accordance with this section;

(ii) Prepare and follow an equipment replacement plan and replace equipment in accordance with this section; or

(iii) Document cleaning and replacement in accordance with this section, carried out after termination of use of chlorophenolic preservations.

(2) Cleaning Requirements.

(i) Prepare and sign a written equipment cleaning plan that describes:

(A) The equipment to be cleaned;

(B) How the equipment will be cleaned;

(C) The solvent to be used in cleaning;

(D) How solvent rinses will be tested; and

(E) How cleaning residues will be disposed.

(ii) Equipment must be cleaned as follows:

(A) Remove all visible residues from process equipment;

(B) Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(iii) Analytical requirements.

(A) Rinses must be tested in accordance with SW-846, Method 8290.

(B) "Not detected" means at or below the lower method calibration limit (MCL) in Method 8290, Table 1.

(iv) The generator must manage all residues from the cleaning process as F032 waste.

(3) Replacement requirements.

(i) Prepare and sign a written equipment replacement plan that describes:

(A) The equipment to be replaced;

(B) How the equipment will be replaced; and

(C) How the equipment will be disposed.

(ii) The generator must manage the discarded equipment as F032 waste.

(4) Documentation requirements.

(i) Document that previous equipment cleaning and/or replacement was performed in accordance with this section and occurred after cessation of use of chlorophenolic preservatives.

*(c)* The generator must maintain the following records documenting the cleaning and replacement as part of the facility's operating record:

(1) The name and address of the facility;

(2) Formulations previously used and the date on which their use ceased in each process at the plant;

(3) Formulations currently used in each process at the plant;

(4) The equipment cleaning or replacement plan;

(5) The name and address of any persons who conducted the cleaning and replacement;

(6) The dates on which cleaning and replacement were accomplished;

(7) The dates of sampling and testing;

(8) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;

(9) A description of the tests performed, the date the tests were performed, and the results of the tests;

(10) The name and model numbers of the instrument(s) used in performing the tests;

(11) QA/QC documentation; and

(12) The following statement signed by the generator or his authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under 261.35 was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.

**261.38 Comparable/Syngas Fuel Exclusion.**

Wastes that meet the following comparable/syngas fuel requirements are not solid wastes: (11/99)

*(a)* Comparable fuel specifications.

(1) Physical specifications.

(i) Heating value. The heating value must exceed 5,000 BTU/lbs. (11,500 J/g).

(ii) Viscosity. The viscosity must not exceed: 50 cs, as-fired.

(2) Constituent specifications. For compounds listed below, the specification levels and, where non-detect is the specification, minimum required detection limits are: [see Table 1].

*(b)* Synthesis gas fuel specification.-Synthesis gas fuel (i.e., syngas fuel) that is generated from hazardous waste must:

(1) Have a minimum Btu value of 100 Btu/Scf;

(2) contain less than 1 ppmv of total halogen;

(3) contain less than 300 ppmv of total nitrogen other than diatomic nitrogen ($N_2$);

(4) contain less than 200 ppmv of hydrogen sulfide; and

(5) Contain less than 1 ppmv of each hazardous constituent in the target list of Appendix VIII constituents of this part.

| 261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification | | | | | |
|---|---|---|---|---|---|
| Chemical name | CAS # | Composite value (mg/kg) | Heating value (BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum required detection limit (mg/kg) |
| Total Nitrogen as N | NA | 9000 | 18400 | 4900~ | |
| Total Halogens as Cl | NA | 1000 | 18400 | 540 | |
| Total Organic Halogens as Cl | NA | | | ([1]) | |
| Polychlorinated biphenyls, total [Arocolors, total] | 1336-36-3 | ND | | ND | 1.4 |
| Cyanide, total..... | 57-12-5 | ND | | ND | 1.0 |
| Metals: | | | | | |
| Antimony, total | 7440-36-0 | ND | | 12 | |
| Arsenic, total | 7440-38-2 | ND | | 0.23 | |
| Barium, total | 7440-39-3 | ND | | 23 | |
| Beryllium, total | 7440-41-7 | ND | | 1.2 | |
| Cadmium, total | 7440-43-9 | | ND | | 1.2 |
| Chromium, total | 7440-47-3 | ND | | 2.3 | |
| Cobalt | 7440-48-4 | ND | | 4.6 | |
| Lead, total | 7439-92-1 | 57 | 18100 | 31 | |
| Manganese | 7439-96-5 | ND | | 1.2 | |
| Mercury total | 7439-97-6 | ND | | 0.25 | |
| Nickel, total | 7440-02-0 | 106 | 18400 | 58 | |
| Selenium, total | 7782-49-2 | ND | | 0.23 | |
| Silver, total | 7440-22-4 | ND | | 2.3 | |
| Thallium, total | 7440-28-0 | ND | | 23 | |
| Hydrocarbons: | | | | | |
| Benzo[a]anthracene | 56-55-3 | ND | | 2400 | |
| Benzene | 71-43-2 | 8000 | 19600 | 4100 | |
| Benzo[b]fluoranthene | 205-99-2 | ND | | 2400 | |
| Benzo[k]fluoranthene | 207-08-9 | ND | | 2400 | |
| Benzo[a]pyrene | 50-32-8 | ND | | 2400 | |
| Chrysene | 218-01-9 | ND | | 2400 | |
| Dibenzo[a, h]anthracene | 53-70-3 | ND | | 2400 | |
| 7,12-Dimethylbenz[a]anthracene | 57-97-6 | ND | | 2400 | |
| Fluoranthene | 206-44-0 | ND | | 2400 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | ND | | 2400 | |
| 3-Methylcholanthrene | 56-49-5 | ND | | 2400 | |
| Naphthalene | 91-20-3 | 6200 | 19400 | 3200 | |
| Toluene | 108-88-3 | 69000 | 19400 | 36000 | |
| Oxygenates: | | | | | |
| Acetophenone | 98-86-2 | ND | | 2400 | |
| Acrolein | 107-02-8 | ND | | 39 | |
| Allyl alcohol | 107-18-6 | ND | | 30 | |
| Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate] | 117-81-7 | ND | | 2400 | |
| Butyl benzyl phthalate | 85-68-7 | ND | | 2400 | |
| o-Cresol [2-Methyl phenol] | 95-48-7 | ND | | 2400 | |
| m-Cresol [3-Methyl phenol] | 108-39-4 | ND | | 2400 | |
| p-Cresol [4-Methyl phenol] | 106-44-5 | ND | | 2400 | |
| Di-n-butyl phthalate | 84-74-2 | ND | | 2400 | |
| Diethyl phthalate | 84-66-2 | ND | | 2400 | |
| 2,4-Dimethylphenol | 105-67-9 | ND | | 2400 | |
| Dimethyl phthalate | 131-11-3 | ND | | 2400 | |
| Di-n-octyl phthalate | 117-84-0 | ND | | 2400 | |
| Endothall | 145-73-3 | ND | | 100 | |
| Ethyl methacrylate | 97-63-2 | ND | | 39 | |
| 2-Ethoxyethanol [Ethylene glycol monoethyl ether] | 110-80-5 | ND | | 100 | |
| Isobutyl alcohol | 78-83-1 | ND | | 39 | |
| Isosafrole | 120-58-1 | ND | | 2400 | |
| Methyl ethyl ketone [2-Butanone] | 78-93-3 | ND | | 39 | |
| Methyl methacrylate | 80-62-6 | ND | | 39 | |
| 1,4-Naphthoquinone | 130-15-4 | ND | | 2400 | |
| Phenol | 108-95-2 | ND | | 2400 | |
| Propargyl alcohol [2-Propyn-1-ol] | 107-19-7 | ND | | 30 | |
| Safrole | 94-59-7 | ND | | 2400 | |
| Sulfonated Organics: | | | | | |
| Carbon disulfide | 75-15-0 | ND | | ND | 39 |

| 261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification | | | | | |
|---|---|---|---|---|---|
| Chemical name | CAS # | Composite value (mg/kg) | Heating value (BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum required detection limit (mg/kg) |
| Disulfoton | 298-04-4 | ND | | ND | 2400 |
| Ethyl methanesulfonate | 62-50-0 | ND | | ND | 2400 |
| Methyl methanesulfonate | 66-27-3 | ND | | ND | 2400 |
| Phorate | 298-02-2 | ND | | ND | 2400 |
| 1,3-Propane sultone | 1120-71-4 | ND | | ND | 100 |
| Tetraethyldithiopyrophosphate [Sulfotepp] | 3689-24-5 | ND | | ND | 2400 |
| Thiophenol [Benzenethiol] | 108-98-5 | ND | | ND | 30 |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | ND | | ND | 2400 |
| Nitrogenated Organics: | | | | | |
| Acetonitrile [Methyl cyanide] | 75-05-8 | ND | | ND | 39 |
| 2-Acetylaminofluorene [2-AAF] | 53-96-3 | ND | | ND | 2400 |
| Acrylonitrile | 107-13-1 | ND | | ND | 39 |
| 4-Aminobiphenyl | 92-67-1 | ND | | ND | 2400 |
| 4-Aminopyridine | 504-24-5 | ND | | ND | 100 |
| Aniline | 62-53-3 | ND | | ND | 2400 |
| Benzidine | 92-87-5 | ND | | ND | 2400 |
| Dibenz[a, j]acridine | 224-42-0 | ND | | ND | 2400 |
| O,O-Diethyl O-pyrazinyl phosphorothioate [Thionazin] | 297-97-2 | ND | | ND | 2400 |
| Dimethoate | 60-51-5 | ND | | ND | 2400 |
| p-(Dimethylamino) azobenzene [4-Dimethylaminoazobenzene] | 60-11-7 | ND | | ND | 2400 |
| 3,3'-Dimethylbenzidine | 119-93-7 | ND | | ND | 2400 |
| a , a-Dimethylphenethylamine | 122-09-8 | ND | | ND | 2400 |
| 3,3'-Dimethoxybenzidine | 119-90-4 | ND | | ND | 100 |
| 1,3-Dinitrobenzene [m-Dinitrobenzene] | 99-65-0 | ND | | ND | 2400 |
| 4,6-Dinitro-o-cresol | 534-52-1 | ND | | ND | 2400 |
| 2,4-Dinitrophenol | 51-28-5 | ND | | ND | 2400 |
| 2,4-Dinitrotoluene | 121-14-2 | ND | | ND | 2400 |
| 2,6-Dinitrotoluene | 606-20-2 | ND | | ND | 2400 |
| Dinoseb [2-sec-Butyl-4,6-dinitrophenol] | 88-85-7 | ND | | ND | 2400 |
| Diphenylamine | 122-39-4 | ND | | ND | 2400 |
| Ethyl carbamate [Urethane] | 51-79-6 | ND | | ND | 100 |
| Ethylenethiourea (2-Imidazolidinethione) | 96-45-7 | ND | | ND | 110 |
| Famphur | 52-85-7 | ND | | ND | 2400 |
| Methacrylonitrile | 126-98-7 | ND | | ND | 39 |
| Methapyrilene | 91-80-5 | ND | | ND | 2400 |
| Methomyl | 16752-77-5 | ND | | ND | 57 |
| 2-Methyllactonitrile, [Acetone cyanohydrin] | 75-86-5 | ND | | ND | 100 |
| Methyl parathion | 298-00-0 | ND | | ND | 2400 |
| MNNG (N-Metyl-N-nitroso-N'-nitroguanidine) | 70-25-7 | ND | | ND | 110 |
| 1-Naphthylamine, [ a -Naphthylamine] | 134-32-7 | ND | | ND | 2400 |
| 2-Naphthylamine, [ ß -Naphthylamine] | 91-59-8 | ND | | ND | 2400 |
| Nicotine | 54-11-5 | ND | | ND | 100 |
| 4-Nitroaniline [p-Nitroaniline] | 100-01-6 | ND | | ND | 2400 |
| Nitrobenzene | 98-95-3 | ND | | ND | 2400 |
| p-Nitrophenol, [p-Nitrophenol] | 100-02-7 | ND | | ND | 2400 |
| 5-Nitro-o-toluidine | 99-55-8 | ND | | ND | 2400 |
| N-Nitrosodi-n-butylamine | 924-16-3 | ND | | ND | 2400 |
| N-Nitrosodiethylamine | 55-18-5 | ND | | ND | 2400 |
| N-Nitrosodiphenylamine, [Diphenylnitrosamine] | 86-30-6 | ND | | ND | 2400 |
| N-Nitroso-N-methylethylamine | 10595-95-6 | ND | | ND | 2400 |
| N-Nitrosomorpholine | 59-89-2 | ND | | ND | 2400 |
| N-Nitrosopiperidine | 100-75-4 | ND | | ND | 2400 |
| N-Nitrosopyrrolidine | 930-55-2 | ND | | ND | 2400 |
| 2-Nitropropane | 79-46-9 | ND | | ND | 30 |
| Parathion | 56-38-2 | ND | | ND | 2400 |
| Phenacetin | 62-44-2 | ND | | ND | 2400 |
| 1,4-Phenylene diamine, [p-Phenylenediamine] | 106-50-3 | ND | | ND | 2400 |
| N-Phenylthiourea | 103-85-5 | ND | | ND | 57 |
| 2-Picoline [alpha-Picoline] | 109-06-8 | ND | | ND | 2400 |
| Propylthioracil, [6-Propyl-2-thiouracil] | 51-52-5 | ND | | ND | 100 |
| Pyridine | 110-86-1 | ND | | ND | 2400 |
| Strychnine | 57-24-9 | ND | | ND | 100 |

| 261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification | | | | | |
|---|---|---|---|---|---|
| Chemical name | CAS # | Composite value (mg/kg) | Heating value (BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum required detection limit (mg/kg) |
| Thioacetamide | 62-55-5 | ND | | ND | 57 |
| Thiofanox | 39196-18-4 | ND | | ND | 100 |
| Thiourea | 62-56-6 | ND | | ND | 57 |
| Toluene-2,4-diamine [2,4-Diaminotoluene] | 95-80-7 | ND | | ND | 57 |
| Toluene-2,6-diamine [2,6-Diaminotoluene] | 823-40-5 | ND | | ND | 57 |
| o-Toluidine | 95-53-4 | ND | | ND | 2400 |
| p-Toluidine | 106-49-0 | ND | | ND | 100 |
| 1,3,5-Trinitrobenzene, [sym-Trinitobenzene] | 99-35-4 | ND | | ND | 2400 |
| Halogenated Organic: | | | | | |
| Allyl chloride | 107-05-1 | ND | | ND | 39 |
| Aramite | 140-57-8 | ND | | ND | 2400 |
| Benzal chloride [Dichloromethyl benzene] | 98-87-3 | ND | | ND | 100 |
| Benzyl chloride | 100-44-77 | ND | | ND | 100 |
| bis(2-Chloroethyl)ether [Dichoroethyl ether] | 111-44-4 | ND | | ND | 2400 |
| Bromoform [Tribromomethane] | 75-25-2 | ND | | ND | 39 |
| Bromomethane [Methyl bromide] | 74-83-9 | ND | | ND | 39 |
| 4-Bromophenyl phenyl ether [p-Bromo diphenyl ether] | 101-55-3 | ND | | ND | 2400 |
| Carbon tetrachloride | 56-23-5 | ND | | ND | 39 |
| Chlordane | 57-74-9 | ND | | ND | 14 |
| p-Chloroaniline | 106-47-8 | ND | | ND | 2400 |
| Chlorobenzene | 108-90-7 | ND | | ND | 39 |
| Chlorobenzilate | 510-15-6 | ND | | ND | 2400 |
| p-Chloro-m-cresol | 59-50-7 | ND | | ND | 2400 |
| 2-Chloroethyl vinyl ether | 110-75-8 | ND | | ND | 39 |
| Chloroform | 67-66-3 | ND | | ND | 39 |
| Chloromethane [Methyl chloride] | 74-87-3 | ND | | ND | 39 |
| 2-Chloronaphthalene [beta-Chloronaphthalene] | 91-58-7 | ND | | ND | 2400 |
| 2-Chlorophenol [o-Chlorophenol] | 95-57-8 | ND | | ND | 2400 |
| Chloroprene [2-Chloro-1,3-butadiene] | 1126-99-8 | ND | | ND | 39 |
| 2,4-D [2, 4-Dichlorophenoxyacetic acid] | 94-75-7 | ND | | ND | 7.0 |
| Diallate | 2303-16-4 | ND | | ND | 2400 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | ND | | ND | 39 |
| 1,2-Dichlorobenzene [o-Dichlorobenzene] | 95-50-1 | ND | | ND | 2400 |
| 1,3-Dichlorobenzene [m-Dichlorobenzene] | 541-73-1 | ND | | ND | 2400 |
| 1,4-Dichlorobenzene [p-Dichlorobenzene] | 106-46-7 | ND | | ND | 2400 |
| 3,3'-Dichlorobenzidine | 91-94-1 | ND | | ND | 2400 |
| Dichlorodifluoromethane [CFC-12] | 75-71-8 | ND | | ND | 39 |
| 1,2-Dichloroethane [Ethylene dichloride] | 107-06-2 | ND | | ND | 39 |
| 1,1-Dichloroethylene [Vinylidene chloride] | 75-35-4 | ND | | ND | 39 |
| Dichloromethoxy ethane [Bis(2-chloroethoxy)methane | 111-91-1 | ND | | ND | 2400 |
| 2,4-Dichlorophenol | 120-83-2 | ND | | ND | 2400 |
| 2,6-Dichlorophenol | 87-65-0 | ND | | ND | 2400 |
| 1,2-Dichloropropane [Propylene dichloride] | 78-87-5 | ND | | ND | 39 |
| cis-1,3-Dichloropropylene | 10061-01-5 | ND | | ND | 39 |
| trans-1,3 -Dichloropropylene | 10061-02-6 | ND | | ND | 39 |
| 1,3-Dichloro-2-propanol | 96-23-1 | ND | | ND | 30 |
| Endosulfan I | 959-98-8 | ND | | ND | 1.4 |
| Endosulfan II | 33213-65-9 | ND | | ND | 1.4 |
| Endrin | 72-20-8 | ND | | ND | 1.4 |
| Endrin aldehyde | 7421-93-4 | ND | | ND | 1.4 |
| Endrin Ketone | 53494-70-5 | ND | | ND | 1.4 |
| Epichlorohydrin [1-Chloro-2,3-epoxy propane] | 106-89-8 | ND | | ND | 30 |
| Ethylidene dichloride [1,1-Dichloroethane] | 75-34-3 | ND | | ND | 39 |
| 2-Fluoroacetamide | 640-19-7 | ND | | ND | 100 |
| Heptachlor | 76-44-8 | ND | | ND | 1.4 |
| Heptachlor epoxide | 1024-57-3 | ND | | ND | 2.8 |
| Hexachlorobenzene | 118-74-1 | ND | | ND | 2400 |
| Hexachloro-1, 3-butadiene [Hexachlorobutadiene] | 87-68-3 | ND | | ND | 2400 |
| Hexachlorocyclopentadiene | 77-47-4 | ND | | ND | 2400 |
| Hexachloroethane | 67-72-1 | ND | | ND | 2400 |
| Hexachlorophene | 70-30-4 | ND | | ND | 59000 |
| Hexachloropropene [Hexachloropropylene] | 1888-71-7 | ND | | ND | 2400 |
| Isodrin | 465-73-6 | ND | | ND | 2400 |

**261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification**

| Chemical name | CAS # | Composite value (mg/kg) | Heating value (BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum required detection limit (mg/kg) |
|---|---|---|---|---|---|
| Kepone [Chlordecone] | 143-50-0 | ND | | ND | 4700 |
| Lindane [gamma-BHC] [gamma-Hexachlorocyclohexane] | 58-89-9 | ND | | ND | 1.4 |
| Methylene chloride [Dichloromethane] | 75-09-2 | ND | | ND | 39 |
| 4,4'-Methylene-bis(2-chloroaniline) | 101-14-4 | ND | | ND | 100 |
| Methyl iodide [Iodomethane] | 74-88-4 | ND | | ND | 39 |
| Pentachlorobenzene | 608-93-5 | ND | | ND | 2400 |
| Pentachloroethane | 76-01-7 | ND | | ND | 39 |
| Pentachloronitrobenzene [PCNB] [Quintobenzene] [Quintozene] | 82-68-8 | ND | | ND | 2400 |
| Pentachlorophenol | 87-86-5 | ND | | ND | 2400 |
| Pronamide | 23950-58-5 | ND | | ND | 2400 |
| Silvex [2,4,5-Trichlorophenoxypropionic acid] | 93-72-1 | ND | | ND | 7.0 |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD] | 1746-01-6 | ND | | ND | 30 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | ND | | ND | 2400 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | ND | | ND | 39 |
| Tetrachloroethylene [Perchloroethylene] | 127-18-4 | ND | | ND | 39 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | ND | | ND | 2400 |
| 1,2,4-Trichlorobenzene | 120-82-1 | ND | | ND | 2400 |
| 1,1,1-Trichloroethane [Methyl chloroform] | 71-55-6 | ND | | ND | 39 |
| 1,1,2-Trichloroethane [Vinyl trichloride] | 79-00-5 | ND | | ND | 39 |
| Trichloroethylene | 79-01-6 | ND | | ND | 39 |
| Trichlorofluoromethane [Trichlormonofluoromethane] | 75-69-4 | ND | | ND | 39 |
| 2,4,5-Trichlorophenol | 95-95-4 | ND | | ND | 2400 |
| 2,4,6-Trichlorophenol | 88-06-2 | ND | | ND | 2400 |
| 1,2,3-Trichloropropane | 96-18-4 | ND | | ND | 39 |
| Vinyl Chloride | 75-01-4 | ND | | ND | 39 |

Notes: NA - Not Applicable.
ND - Nondetect
(1) 25 or individual halogenated organics listed below.

*(c)* Implementation. Waste that meets the comparable or syngas fuel specifications provided by paragraphs (a) or (b) of this section (these constituent levels must be achieved by the comparable fuel when generated, or as a result of treatment or blending, as provided in (3) or (4) below) is excluded from the definition of solid waste provided that the following requirements are met:

(1) Notices-For purposes of this section, the person claiming and qualifying for the exclusion is called the comparable/syngas fuel generator and the person burning the comparable/syngas fuel is called the comparable/syngas burner. The person who generates the comparable fuel or syngas fuel must claim and certify to the exclusion.

(i) State RCRA and CAA Directors in Authorized States or Regional RCRA and CAA Directors in Unauthorized States.

(A) The generator must submit a one-time notice to the Regional or State RCRA and CAA Directors, in whose jurisdiction the exclusion is being claimed and where the comparable/syngas fuel will be burned, certifying compliance with the conditions of the exclusion and providing documentation as required by paragraph (C);

(B) If the generator is a company that generates comparable/syngas fuel at more than one facility, the generator shall specify at which sites the comparable/syngas fuel will be generated;

(C) A comparable/syngas fuel generator's notification to the Directors must contain the following items:

(1) the name, address, and RCRA ID number of the person/facility claiming the exclusion;

(2) the applicable EPA Hazardous Waste Codes for the hazardous waste;

(3) name and address of the units, meeting the requirements of 261.38(c)(2), that will burn the comparable/syngas fuel; and

(4) the following statement is signed and submitted by the person claiming the exclusion or his authorized representative:

Under penalty of criminal and civil prosecution for making or submitting false statements, representations, or omissions, I certify that the requirements of 261.38 have been met for all waste identified in this notification. Copies of the records and information required at 261.38(c)(10) are available at the comparable/syngas fuel generators facility. Based on my inquiry of the individuals immediately responsible for obtaining the

information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(ii) Public Notice. Prior to burning an excluded comparable/syngas fuel, the burner must publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled "Notification of Burning a Comparable/Syngas Fuel Excluded Under the Resource Conservation and Recovery Act" containing the following information:

(A) name, address, and RCRA ID number of the generating facility;

(B) name and address of the unit(s) that will burn the comparable/syngas fuel;

(C) a brief, general description of the manufacturing, treatment, or other process generating the comparable/syngas fuel;

(D) an estimate of the average and maximum monthly and annual quantity of the waste claimed to be excluded; and

(E) name and mailing address of the Regional or State Directors to whom the claim was submitted.

(2) Burning.-The comparable/syngas fuel exclusion for fuels meeting the requirements of paragraphs (a) or (b) and (c)(1) applies only if the fuel is burned in the following units that also shall be subject to Federal/State/local air emission requirements, including all applicable CAA MACT requirements:

(i) Industrial furnaces as defined in 260.10 of this chapter;

(ii) Boilers, as defined in 260.10 of this chapter, that are further defined as follows:

(A) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(B) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale;

(iii) Hazardous waste incinerators subject to regulation under Subpart O of parts 264 or 265 of this chapter or applicable CAA MACT standards.

(iv) Gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale. (6/02)

(3) Blending to Meet the Viscosity Specification.-A hazardous waste blended to meet the viscosity specification shall:

(i) as generated and prior to any blending, manipulation, or processing meet the constituent and heating value specifications of paragraphs (a)(1)(i) and (a)(2); (10/01)

(ii) be blended at a facility that is subject to the applicable requirements of parts 264 and 265, or 262.34; and

(iii) not violate the dilution prohibition of 261.38(c)(6).

(4) Treatment to Meet the Comparable Fuel Exclusion Specifications.

(i) A hazardous waste may be treated to meet the exclusion specifications of (a)(1) and (2) provided the treatment:

(A) destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying hazardous constituents or materials;

(B) is performed at a facility that is subject to the applicable requirements of parts 264 and 265, or 262.34; and

(C) does not violate the dilution prohibition of 261.38(c)(6).

(ii) Residuals resulting from the treatment of a hazardous waste listed in Subpart D of this part to generate a comparable fuel remain a hazardous waste.

(5) Generation of a Syngas Fuel.

(i) A syngas fuel can be generated from the processing of hazardous wastes to meet the exclusion specifications of 261.38(b) provided the processing:

(A) destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying constituents or materials;

(B) is performed at a facility that is subject to the applicable requirements of parts 264 and 265, or 262.34 or is an exempt recycling unit pursuant to 261.6(c); and

(C) does not violate the dilution prohibition of 261.38(c)(6).

(ii) Residuals resulting from the treatment of a hazardous waste listed in Subpart D of this part to generate a syngas fuel remain a hazardous waste.

(6) Dilution Prohibition for Comparable and Syngas Fuels.- No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a hazardous waste to meet the exclusion specifications of (a)(1)(i), (a)(2) or (b) of this section.

(7) Waste Analysis Plans. The generator of a comparable/syngas fuel shall develop and follow a written waste analysis plan which describes the procedures for sampling and analysis of the hazardous waste to be excluded. The waste analysis plan shall be developed in accordance with the applicable sections of the “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846). The plan shall be followed and retained at the facility excluding the waste.

(i) At a minimum, the plan must specify:

(A) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of those parameters;

(B) the test methods which will be used to test for these parameters;

(C) the sampling method which will be used to obtain a representative sample of the waste to be analyzed;

(D) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(E) if process knowledge is used in the waste determination, any information prepared by the generator in making such determination.

(ii) The waste analysis plan shall also contain records of the following:

(A) the dates and times waste samples were obtained, and the dates the samples were analyzed;

(B) the names and qualifications of the person(s) who obtained the samples;

(C) a description of the temporal and spatial locations of the samples;

(D) the name and address of the laboratory facility at which analyses of the samples were performed;

(E) a description of the analytical methods used, including any clean-up and sample preparation methods;

(F) all quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

(G) all laboratory results demonstrating that the exclusion specifications have been met for the waste; and

(H) all laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in 261.38(c)(11) and also provides for the availability of the documentation to the claimant upon request.

(iii) Syngas fuel generators shall submit for approval, prior to performing sampling, analysis, or any management of a syngas fuel as an excluded waste, a waste analysis plan containing the elements of (i) above to the appropriate regulatory authority. The approval of waste analysis plans must be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the waste analysis plan may contain such provisions and conditions as the regulatory authority deems appropriate.

(8) Comparable Fuel Sampling and Analysis.

(i) General. For each waste for which an exclusion is claimed, the generator of the hazardous waste must test for all the constituents on appendix VIII to this part, except those that the generator determines, based on testing or knowledge, should not be present in the waste. The generator is required to document the basis of each determination that a constituent should not be present. The generator may not determine that any of the following categories of constituents should not be present:

(A) a constituent that triggered the toxicity characteristic for the waste constituents that were the basis of the listing of the waste stream, or constituents for which there is a treatment standard for the waste code in 268.40;

(B) a constituent detected in previous analysis of the waste;

(C) constituents introduced into the process that generates the waste; or

(D) constituents that are byproducts or side reactions to the process that generates the waste. Note to paragraph (c)(8): Any claim under this section must be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the waste above the exclusion specifications.

(ii) For each waste for which the exclusion is claimed where the generator of the comparable/syngas fuel is not the original generator of the hazardous waste, the generator of the comparable/syngas fuel may not use process knowledge pursuant to (i) above and must test to determine that all of the constituent specifications of 261.38(a)(2) and 261.38(b) have been met.

(iii) The comparable/syngas fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise, and representative of the waste. For the waste to be eligible for exclusion, a generator must demonstrate that:

(A) each constituent of concern is not present in the waste above the specification level at the 95% upper confidence limit around the mean; and

(B) the analysis could have detected the presence of the constituent at or below the specification level at the 95% upper confidence limit around the mean.

(iv) Nothing in this paragraph preempts, overrides or otherwise negates the provision in 262.11 of this chapter, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(v) In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

(vi) The generator must conduct sampling and analysis in accordance with their waste analysis plan developed under (7) above.

(vii) Syngas fuel and comparable fuel that has not been blended in order to meet the kinematic viscosity specifications shall be analyzed as generated.

(viii) If a comparable fuel is blended in order to meet the kinematic viscosity specifications, the generator shall:

(A) analyze the fuel as generated to ensure that it meets the constituent and heating value specifications; and

(B) after blending, analyze the fuel again to ensure that the blended fuel continues to meet all comparable/syngas fuel specifications.

(ix) Excluded comparable/syngas fuel must be re-tested, at a minimum, annually and must be retested after a process change that could change the chemical or physical properties of the waste.

(9) Speculative Accumulation. Any persons handling a comparable/syngas fuel are subject to the speculative accumulation test under 261.2(c)(4).

(10) Records. The generator must maintain records of the following information on-site:

(i) all information required to be submitted to the implementing authority as part of the notification of the claim:

(A) the owner/operator name, address, and RCRA facility ID number of the person claiming the exclusion;

(B) the applicable EPA Hazardous Waste Codes for each hazardous waste excluded as a fuel; and

(C) the certification signed by the person claiming the exclusion or his authorized representative.

(ii) a brief description of the process that generated the hazardous waste and process that generated the excluded fuel, if not the same;

(iii) an estimate of the average and maximum monthly and annual quantities of each waste claimed to be excluded;

(iv) documentation for any claim that a constituent is not present in the hazardous waste as required under 261.38(c)(8)(i);

(v) the results of all analyses and all detection limits achieved as required under 261.38(c)(8);

(vi) if the excluded waste was generated through treatment or blending, documentation as required under section 261.38(c)(3) or (4);

(vii) if the waste is to be shipped off-site, a certification from the burner as required under section 261.38(c)(12);

(viii) A waste analysis plan and the results of the sampling and analysis that includes the following:

(A) the dates and times waste samples were obtained, and the dates the samples were analyzed;

(B) the names and qualifications of the person(s) who obtained the samples;

(C) a description of the temporal and spatial locations of the samples;

(D) the name and address of the laboratory facility at which analyses of the samples were performed;

(E) a description of the analytical methods used, including any clean-up and sample preparation methods;

(F) all quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

(G) all laboratory analytical results demonstrating that the exclusion specifications have been met for the waste; and

(H) all laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in 261.38(c)(11) and also provides for the availability of the documentation to the claimant upon request; and

(ix) If the generator ships comparable/syngas fuel off-site for burning, the generator must retain for each shipment the following information on-site:

(A) the name and address of the facility receiving the comparable/syngas fuel for burning;

(B) the quantity of comparable/syngas fuel shipped and delivered;

(C) the date of shipment or delivery;

(D) a cross-reference to the record of comparable/syngas fuel analysis or other information used to make the determination that the comparable/syngas fuel meets the specifications as required under 261.38(c)(8); and

(E) a one-time certification by the burner as required under 261.38(c)(12).

(11) Records Retention. Records must be maintained for the period of three years. A generator must maintain a current waste analysis plan during that three year period.

(12) Burner certification. Prior to submitting a notification to the State and Regional Directors, a comparable/syngas fuel generator who intends to ship their fuel off-site for burning must obtain a one-time written, signed statement from the burner:

(i) certifying that the comparable/syngas fuel will only be burned in an industrial furnace or boiler, utility boiler, or hazardous waste incinerator, as required under paragraph (c)(2);

(ii) identifying the name and address of the units that will burn the comparable/syngas fuel; and

(iii) certifying that the state in which the burner is located is authorized to exclude wastes as comparable/syngas fuel under the provisions of 261.38.

(13) Ineligible Waste Codes. Wastes that are listed because of presence of dioxins or furans, as set out in Appendix VII of Part 261, are not eligible for this exclusion, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to full Subtitle C regulation.

**Appendix I Representative Sampling Methods**
(12/92; 12/93)

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid - ASTM Standard D140-70 Crushed or powdered material - ASTM Standard D346-75 Soil or rock-like material - ASTM Standard D420-69 Soil-like material - ASTM Standard D1452-65.

Fly Ash-like material - ASTM Standard D2234-76 [ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103]

Containerized liquid wastes - "COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,"[1a] U.S. Environmental Protection Agency Publication SW-846,

Liquid waste in pits, ponds, lagoons, and similar reservoirs. - "Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."[1a]

FOOTNOTE: [1a] These methods are also described in Samplers and Sampling Procedures for Hazardous Waste Streams, EPA 600/2-80-018, January 1980.

The Department will consider other methodologies for testing from other sources (such as) i.e., Standard Methods, other Federal Regulations, as long as the proper QA/QC is provided. This manual also contains additional information on application of these protocols.

**Appendix II Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)**

NOTE: The TCLP (Method 1311) is published in "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. (12/92; 12/93)

**Appendix III Chemical Analysis Test Methods**

Note: Appropriate analytical procedures to determine whether a sample contains a given toxic constituent are specified in Chapter Two, "Choosing the Correct Procedure" found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. Prior to final sampling and analysis method selection, the individual should consult the specific section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation. (11/90, 12/92, 12/93)

**Appendix IV [Reserved for Radioactive Waste Test Methods]**

**Appendix V [Reserved for Infectious Waste Treatment Specifications]**

**Appendix VI [Reserved for Etiologic Agents]**

**Appendix VII Basis for Listing Hazardous Waste**

| Hazardous Waste # | Hazardous constituents for which listed (11/90, 12/92, 5/96, 9/98) |
|---|---|
| F001 | Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons. |
| F002 | Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trichfluoroethane, ortho-dichlorobenzene, trichlorofluoromethane. |
| F003 | N.A. |
| F004 | Cresols and cresylic acid, nitrobenzene. |
| F005 | Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane. |
| F006 | Cadmium, hexavalent chromium, nickel, cyanide (complexed). |
| F007 | Cyanide (salts). |
| F008 | Cyanide (salts). |

| | |
|---|---|
| F009 | Cyanide (salts). |
| F010 | Cyanide (salts). |
| F011 | Cyanide (salts). |
| F012 | Cyanide (complexed). |
| F019 | Hexavalent chromium, cyanide (complexed). |
| F020 | Tetra- and pentachlorodibenzo-p-dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F021 | Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives. |
| F022 | Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans. |
| F023 | Tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F024 | Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene. |
| F025 | Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene. |
| F026 | Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans. |
| F027 | Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F028 | Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F032 | Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)-anthracene,indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans (12/92) |
| F034 | Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium (12/92). |
| F035 | Arsenic, chromium, lead (12/92). |
| F037 | Benzene, benzo(a)pyrene, chrysene, lead, chromium (12/92). |
| F038 | Benzene, benzo(a)pyrene chrysene, lead, chromium (12/92). |
| F039 | All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 268.43(a), Table CCW (12/92). |
| K001 | Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene. |
| K002 | Hexavalent chromium, lead |
| K003 | Hexavalent chromium, lead. |
| K004 | Hexavalent chromium. |
| K005 | Hexavalent chromium, lead. |
| K006 | Hexavalent chromium. |
| K007 | Cyanide (complexed), hexavalent chromium. |
| K008 | Hexavalent chromium. |
| K009 | Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid. |
| K010 | Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde. |
| K011 | Acrylonitrile, acetonitrile, hydrocyanic acid. |
| K013 | Hydrocyanic acid, acrylonitrile, acetonitrile. |
| K014 | Acetonitrile, acrylamide. |
| K015 | Benzyl chloride, chlorobenzene, toluene, benzotrichloride. |
| K016 | Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene. |
| K017 | Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols. |
| K018 | 1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene. |
| K019 | Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride. |
| K020 | Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride. |
| K021 | Antimony, carbon tetrachloride, chloroform. |
| K022 | Phenol, tars (polycyclic aromatic hydrocarbons). |

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|---|---|
| K023 | Phthalic anhydride, maleic anhydride. |
| K024 | Phthalic anhydride, 1,4-naphthoquinone. |
| K025 | Meta-dinitrobenzene, 2,4-dinitrotoluene. |
| K026 | Paraldehyde, pyridines, 2-picoline. |
| K027 | Toluene diisocyanate, toluene-2, 4-diamine. |
| K028 | 1,1,1-trichloroethane, vinyl chloride. |
| K029 | 1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform. |
| K030 | Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride. |
| K031 | Arsenic. |
| K032 | Hexachlorocyclopentadiene. |
| K033 | Hexachlorocyclopentadiene. |
| K034 | Hexachlorocyclopentadiene. |
| K035 | Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene. |
| K036 | Toluene, phosphorodithioic and phosphorothioic acid esters. |
| K037 | Toluene, phosphorodithioic and phosphorothioic acid esters. |
| K038 | Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters. |
| K039 | Phosphorodithioic and phosphorothioic acid esters. |
| K040 | Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters. |
| K041 | Toxaphene. |
| K042 | Hexachlorobenzene, ortho-dichlorobenzene. |
| K043 | 2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol. |
| K044 | N.A. |
| K045 | N.A. |
| K046 | Lead. |
| K047 | N.A. |
| K048 | Hexavalent chromium, lead. |
| K049 | Hexavalent chromium, lead. |
| K050 | Hexavalent chromium. |
| K051 | Hexavalent chromium, lead. |
| K052 | Lead. |
| K060 | Cyanide, napthalene, phenolic compounds, arsenic. |
| K061 | Hexavalent chromium, lead, cadmium. |
| K062 | Hexavalent chromium, lead. |
| K064 | Lead, cadmium. |
| K065 | Lead, cadmium |
| K066 | Lead, cadmium |
| K069 | Hexavalent chromium, lead, cadmium. |
| K071 | Mercury. |
| K073 | Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane. |
| K083 | Aniline, diphenylamine, nitrobenzene, phenylenediamine. |
| K084 | Arsenic. |
| K085 | Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride. |
| K086 | Lead, hexavalent chromium. |
| K087 | Phenol, naphthalene. |
| K088 | Cyanide (complexes). |
| K090 | Chromium. |
| K093 | Phthalic anhydride, maleic anhydride. |
| K094 | Phthalic anhydride. |
| K095 | 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane. |
| K096 | 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane. |
| K097 | Chlordane, heptachlor. |
| K098 | Toxaphene. |
| K099 | 2,4-dichlorophenol, 2,4,6-trichlorophenol. |
| K100 | Hexavalent chromium, lead, cadmium. |
| K101 | Arsenic. |
| K102 | Arsenic. |
| K103 | Aniline, nitrobenzene, phenylenediamine. |
| K104 | Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine. |
| K105 | Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol. |
| K106 | Mercury. |
| K107 | 1,1-Dimethylhydrazine (UDMH) (12/92). |
| K108 | 1,1-Dimethylhydrazine (UDMH) (12/92). |
| K109 | 1,1-Dimethylhydrazine (UDMH (12/92). |
| K110 | 1,1-Dimethylhydrazine (UDMH (12/92). |

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| K111 | 2,4-Dinitrotoluene. |
| K112 | 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline. |
| K113 | 2,4-Toluenediamine, o-toluidine, p-toluidine, aniline. |
| K114 | 2,4-Toluenediamine, o-toluidine, p-toluidine. |
| K115 | 2,4-Toluenediamine. |
| K116 | Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene. |
| K117 | Ethylene dibromide. |
| K118 | Ethylene dibromide. |
| K123 | Ethylene thiourea. |
| K124 | Ethylene thiourea. |
| K125 | Ethylene thiourea. |
| K126 | Ethylene thiourea. |
| K131 | Dimethyl sulfate, methyl bromide. |
| K132 | Methyl bromide. |
| K136 | Ethylene dibromide. |
| K140 | 2,4,6-Tribromophenol. (11/99) |
| K141 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93) |
| K142 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.(12/93) |
| K143 | Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene. (12/93) |
| K144 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene. (12/93) |
| K145 | Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene. (12/93) |
| K147 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93) |
| K148 | Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93) |
| K149 | Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene. (12/93) |
| K150 | Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene. (12/93) |
| K151 | Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene. (12/93) |
| K156 | Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine. (5/96) |
| K157 | Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine. (5/96) |
| K158 | Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride. (5/96) |
| K159 | Benzene, butylate, eptc, molinate, pebulate, vernolate. (5/96) |
| K160 | Benzene, butylate, eptc, molinate, pebulate, vernolate. (5/96) |
| K161 | Antimony, arsenic, metam-sodium, ziram. (5/96) |
| K169 | Benzene. (8/00) |
| K170 | Benzo(a)pyrene, dibenz(a,h)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, 3-methylcholanthrene, 7,12-dimethylbenz(a)anthracene. (8/00) |
| K171 | Benzene, arsenic. (8/00) |
| K172 | Benzene, arsenic. (8/00) |
| K174 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD), 1,2,3,4,6,7,8- Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF), 1,2,3,4,7,8,9- Heptachlorodibenzofuran (1,2,3,6,7,8,9-HpCDF), HxCDDs (All Hexachlorodibenzo-p- dioxins), HxCDFs (All Hexachlorodibenzofurans), PeCDDs (All Pentachlorodibenzo-p-dioxins), OCDD (1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, OCDF (1,2,3,4,6,7,8,9- Octachlorodibenzofuran), PeCDFs (All Pentachlorodibenzofurans), TCDDs (All tetrachlorodi-benzo- p-dioxins), TCDFs (All tetrachlorodibenzofurans). (6/02) |
| K175 | Mercury (6/02) |
| K176 | Arsenic, Lead (6/03) |
| K177 | Antimony (6/03) |
| K178 | Thallium (6/03) |
| K900 | Tributyltin, Tributyltin Oxide, Tributyltin Chloride, Tributyltin Hydroxide, Tributyltin Bromide, Tributyltin Acetate, Tributyltin Fluoride, Triethyltin, Triethyltin Chloride (6/02) |

N.A.= Waste is hazardous because it fails the test for the characteristics of ignitability, corrosivity, or reactivity.

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| A2213 (5/96) | Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy -2-oxo-, methyl ester | 30558-43-1 |
| Acetonitrile | Same | 75-05-8 |
| Acetophenone | Ethanone, 1-phenyl- | 98-86-2 |
| 2-Acetylaminefluarone | Acetamide, N-9H-fluoren-2-yl- | 53-96-3 |
| Acetyl chloride | Same | 75-36-5 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| 1-Acetyl-2-thiourea | Acetamide, N-(aminothioxomethyl)- | 591-08-2 |
| Acrolein | 2-Propenal | 107-02-8 |
| Acrylamide | 2-Propenamide | 79-06-1 |
| Acrylonitrile | 2-Propenenitrile | 107-13-1 |
| Aflatoxins | Same | 1402-68-2 |
| Aldicarb | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime | 116-06-3 |
| Aldicarb sulfone (5/96) | Propanal, 2-methyl-2-(methylsulfonyl), O-[(methylamino) carbonyl] oxime | 1646-88-4 |
| Aldrin | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha, 8abeta)- | 309-00-2 |
| Allyl alcohol | 2-Propen-1-ol | 107-18-6 |
| Allyl chloride | 1-Propane, 3-chloro | 107-18-6 |
| Aluminum phosphide | Same | 20859-73-8 |
| 4-Aminobiphenyl | [1,1'-Biphenyl]-4-amine | 92-67-1 |
| 5-(Aminomethyl)-3-isoxazolol | 3(2H)-Isoxazolone, 5-(aminomethyl)- | 2763-96-4 |
| 4-Aminopyridine | 4-Pyridinamine | 504-24-5 |
| Amitrole | 1H-1,2,4-Triazol-3-amine | 61-82-5 |
| Ammonium vanadate | Vanadic acid, ammonium salt | 7803-55-6 |
| Aniline | Benzenamine | 62-53-3 |
| Antimony | Same | 7440-36-0 |
| Antimony compounds, N.O.S.[1] | | |
| Aramite | Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester | 140-57-8 |
| Arsenic | Same | 7440-38-2 |
| Arsenic compounds, N.O.S.[1] | | |
| Arsenic acid | Arsenic acid $H_3AsO_4$ | 7778-39-4 |
| Arsenic pentoxide | Arsenic oxide $As_2O_5$ | 1303-28-2 |
| Arsenic trioxide | Arsenic oxide $As_2O_3$ | 1327-53-3 |
| Auramine | Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl | 492-80-8 |
| Azaserine | L-Serine, diazoacetate (ester) | 115-02-6 |
| Barban (5/96) | Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester | 101-27-9 |
| Barium | Same | 7440-39-3 |
| Barium compounds, N.O.S.[1] | | |
| Barium cyanide | Same | 542-62-1 |
| Bendiocarb (5/96) | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate | 22781-23-3 |
| Bendiocarb phenol (5/96) | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, | 22961-82-6 |
| Benomyl (5/96) | Carbamic acid, [1- [(butylamino) carbonyl]- 1H-benzimidazol-2-yl] -, methyl ester | 17804-35-2 |
| Benz[c]acridine | Same | 225-51-4 |
| Benz[a]anthracene | Same | 56-55-3 |
| Benzal chloride | Benzene, (dichloromethyl)- | 98-87-3 |
| Benzene | Same | 71-43-2 |
| Benzenearsonic acid | Arsonic acid, phenyl- | 98-05-5 |
| Benzidine | [1,1'-Biphenyl]-4,4'-diamine | 92-87-5 |
| Benzo[b]fluoranthene | Benz[e]acephenanthrylene | 205-99-2 |
| Benzo[j]fluoranthene | Same | 205-82-3 |
| Benzo(k)fluoranthene (5/96) | Same | 207-08-9 |
| Benzo[a]pyrene | Same | 50-32-8 |
| p-Benzoquinone | 2,5-Cyclohexadiene-1,4-dione | 106-51-4 |
| Benzotrichloride | Benzene, (trichloromethyl)- | 98-07-7 |
| Benzyl chloride | Benzene, (chloromethyl)- | 100-44-7 |
| Beryllium powder | Same | 7440-41-7 |
| Beryllium compounds, N.O.S.[1] | | |
| Bis (pentamethylene)-thiuram tetrasulfide. | Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis- | 120-54-7 |
| Bromoacetone | 2-Propanone, 1-bromo- | 598-31-2 |
| Bromoform | Methane, tribromo- | 75-25-2 |
| 4-Bromophenyl phenyl ether | Benzene, 1-bromo-4-phenoxy - | 101-55-3 |
| Brucine | Strychnidin-10-one, 2,3-dimethoxy - | 357-57-3 |
| Butyl benzyl phthalate | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester | 85-68-7 |
| Butylate (5/96) | Carbamothioic acid, bis (2-methylpropyl)-, S-ethyl ester | 2008-41-5 |
| Cacodylic acid | Arsinic acid, dimethyl- | 75-60-5 |
| Cadmium | Same | 7440-43-9 |
| Cadmium compounds, N.O.S.[1] | | |
| Calcium chromate | Chromic acid $H_2CrO_4$, calcium salt | 13765-19-0 |
| Calcium cyanide | Calcium cyanide $Ca(CN)_2$ | 592-01-8 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Carbaryl (5/96) | 1-Naphthalenol, methylcarbamate | 63-25-2 |
| Carbendazim (5/96) | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester | 10605-21-7 |
| Carbofuran (5/96) | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate | 1563-66-2 |
| Carbofuran phenol (9/96) | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- | 1563-38-8 |
| Carbon disulfide | Same | 75-15-0 |
| Carbon oxyfluoride | Carbonic difluoride | 353-50-4 |
| Carbon tetrachloride | Methane, tetrachloro- | 56-23-5 |
| Carbosulfan (6/96) | Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester | 55285-14-8 |
| Chloral | Acetaldehyde, trichloro- | 75-87-6 |
| Chlorambucil | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- | 305-03-3 |
| Chlordane | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- | 57-74-9 |
| Chlordane (alpha and gamma isomers) | | |
| Chlorinated benzenes, N.O.S.[1] | | |
| Chlorinated ethane, N.O.S.[1] | | |
| Chlorinated fluorocarbons, N.O.S.[1] | | |
| Chlorinated naphthalene, N.O.S.[1] | | |
| Chlorinated phenol, N.O.S.[1] | | |
| Chlornaphazin | Naphthalenamine, N,N'-bis(2-chloroethyl)- | 494-03-1 |
| Chloroacetaldehyde | Acetaldehyde, chloro- | 107-20-0 |
| Chloroalkyl ethers, N.O.S.[1] | | |
| p-Chloroaniline | Benzenamine, 4-chloro- | 106-47-8 |
| Chlorobenzene | Benzene, chloro- | 108-90-7 |
| Chlorobenzilate | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester | 510-15-6 |
| p-Chloro-m-cresol | Phenol, 4-chloro-3-methyl- | 59-50-7 |
| 2-Chloroethyl vinyl ether | Ethene, (2-chloroethoxy)- | 110-75-8 |
| Chloroform | Methane, trichloro- | 67-66-3 |
| Chloromethyl methyl ether | Methane, chloromethoxy- | 107-30-2 |
| beta-Chloronaphthalene | Naphthalene, 2-chloro- | 91-58-7 |
| o-Chlorophenol | Phenol, 2-chloro- | 95-57-8 |
| 1-(o-Chlorophenyl)thiourea | Thiourea, (2-chlorophenyl)- | 5344-82-1 |
| Chloroprene | 1,3-Butadiene, 2-chloro- | 126-99-8 |
| 3-Chloropropionitrile | Propanenitrile, 3-chloro- | 542-76-7 |
| Chromium | Same | 7440-47-3 |
| Chromium compounds, N.O.S.[1] | | |
| Chrysene | Same | 218-01-9 |
| Citrus red No. 2 | 2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]- | 6358-53-8 |
| Coal tar creosote | Same | 8007-45-2 |
| Copper cyanide | Copper cyanide CuCN | 544-92-3 |
| Copper dimethyldithiocarbamate | Copper, bis(dimethylcarbamodithioato-S,S')-, (6/96) | 137-29-1 |
| Creosote | Same | |
| Cresol (Cresylic acid) | Phenol, methyl- | 1319-77-3 |
| Crotonaldehyde | 2-Butenal | 4170-30-3 |
| m-Cumenyl methylcarbamate | Phenol, 3-(methylethyl)-, methyl carbamate (5/96) | 64-00-6 |
| Cyanides (soluble salts and complexes) N.O.S.[1] | | |
| Cyanogen | Ethanedinitrile | 460-19-5 |
| Cyanogen bromide | Cyanogen bromide (CN)Br | 506-68-3 |
| Cyanogen chloride | Cyanogen chloride (CN)Cl | 506-77-4 |
| Cycasin | beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl | 14901-08-7 |
| Cycloate | Carbamothioic acid, cyclohexylethyl-, S-ethyl ester | 1134-23-2 |
| 2-Cyclohexyl-4,6-dinitrophenol | Phenol, 2-cyclohexyl-4,6-dinitro- | 131-89-5 |
| Cyclophosphamide | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide | 50-18-0 |
| 2,4-D | Acetic acid, (2,4-dichlorophenoxy)- | 94-75-7 |
| 2,4-D, salts, esters | | |
| Daunomycin | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- | 20830-81-3 |
| Dazomet (5/96) | 2H-1,3,5-thiadiazine-2-thione,tetrahydro-3,5-dimethyl | 533-74-4 |
| DDD | Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- | 72-54-8 |
| DDE | Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro- | 72-55-9 |
| DDT | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- | 50-29-3 |
| Diallate | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester | 2303-16-4 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Dibenz[a,h]acridine | Same | 226-36-8 |
| Dibenz[a,j]acridine | Same | 224-42-0 |
| Dibenz[a,h]anthracene | Same | 53-70-3 |
| 7H-Dibenzo[c,g]carbazole | Same | 194-59-2 |
| Dibenzo[a,e]pyrene | Naphtho[1,2,3,4-def]chrysene | 192-65-4 |
| Dibenzo[a,h]pyrene | Dibenzo[b,def]chrysene | 189-64-0 |
| Dibenzo[a,i]pyrene | Benzo[rst]pentaphene | 189-55-9 |
| 1,2-Dibromo-3-chloropropane | Propane, 1,2-dibromo-3-chloro- | 96-12-8 |
| Dibutyl phthalate | 1,2-Benzenedicarboxylic acid, dibutyl ester | 84-74-2 |
| o-Dichlorobenzene | Benzene, 1,2-dichloro- | 95-50-1 |
| m-Dichlorobenzene | Benzene, 1,3-dichloro- | 541-73-1 |
| p-Dichlorobenzene | Benzene, 1,4-dichloro- | 106-46-7 |
| Dichlorobenzene, N.O.S.[1] | Benzene, dichloro- | 25321-22-6 |
| 3,3'-Dichlorobenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- | 91-94-1 |
| 1,4-Dichloro-2-butene | 2-Butene, 1,4-dichloro- | 764-41-0 |
| Dichlorodifluoromethane | Methane, dichlorodifluoro- | 75-71-8 |
| Dichloroethylene, N.O.S.[1] | Dichloroethylene | 25323-30-2 |
| 1,1-Dichloroethylene | Ethene, 1,1-dichloro- | 75-35-4 |
| 1,2-Dichloroethylene | Ethene, 1,2-dichlrol-, (E)- | 156-60-5 |
| Dichloroethyl ether | Ethane, 1,1'oxybis[2-chloro- | 111-44-4 |
| Dichloroisopropyl ether | Propane, 2,2'-oxybis[2-chloro- | 108-60-1 |
| Dichloromethoxy ethane | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- | 111-91-1 |
| Dichloromethyl ether | Methane, oxybis[chloro- | 542-88-1 |
| 2,4-Dichlorophenol | Phenol, 2,4-dichloro- | 120-83-2 |
| 2,6-Dichlorophenol | Phenol, 2,6-dichloro- | 87-65-0 |
| Dichlorophenylarsine | Arsonous dichloride, phenyl- | 696-28-6 |
| Dichloropropane, N.O.S.[1] | Propane, dichloro- | 26638-19-7 |
| Dichloropropanol, N.O.S.[1] | Propanol, dichloro- | 26545-73-3 |
| Dichloropropene, N.O.S.[1] | 1-Propene, dichloro- | 26952-23-8 |
| 1,3-Dichloropropene | 1-Propene, 1,3-dichloro- | 542-75-6 |
| Dieldrin | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta, 6aalpha,7beta,7aalpha)- | 60-57-1 |
| 1,2:3,4-Diepoxybutane | 2,2'-Bioxirane | 1464-53-5 |
| Diethylarsine | Arsine, diethyl- | 692-42-2 |
| Diethylene glycol, dicarbamate (5/96) | Ethanol, 2,2'-oxybis-, dicarbamate | 5952-26-1 |
| 1,4-Diethyleneoxide | 1,4-Dioxane | 123-91-1 |
| Diethylhexyl phthalate | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester | 117-81-7 |
| N,N'-Diethylhydrazine | Hydrazine, 1,2-diethyl- | 1615-80-1 |
| O,O-Diethyl S-methyl dithiophosphate | Phosphorodithioic acid, O,O-diethyl S-methyl ester | 3288-58-2 |
| Diethyl-p-nitrophenyl phosphate | Phosphoric acid, diethyl 4-nitrophenyl ester | 311-45-5 |
| Diethyl phthalate | 1,2-Benzenedicarboxylic acid, diethyl ester | 84-66-2 |
| O,O-Diethyl O-pyrazinyl phosphoro-thioate | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester | 297-97-2 |
| Diethylstilbesterol | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- | 56-53-1 |
| Dihydrosafrole | 1,3-Benzodioxole, 5-propyl- | 94-58-6 |
| Diisopropylfluorophosphate (DFP) | Phosphorofluoridic acid, bis(1-methylethyl) ester | 55-91-4 |
| Dimethoate | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester | 60-51-5 |
| 3,3'-Dimethoxybenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy- | 119-90-4 |
| p-Dimethylaminoazobenzene | Benzenamine, N,N-dimethyl-4-(phenylazo)- | 60-11-7 |
| 7,12-Dimethylbenz[a]anthracene | Benz[a]anthracene, 7,12-dimethyl- | 57-97-6 |
| 3,3'-Dimethylbenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- | 119-93-7 |
| Dimethylcarbamoyl chloride | Carbamic chloride, dimethyl- | 79-44-7 |
| 1,1-Dimethylhydrazine | Hydrazine, 1,1-dimethyl- | 57-14-7 |
| 1,2-Dimethylhydrazine | Hydrazine, 1,2-dimethyl- | 540-73-8 |
| alpha,alpha-Dimethylphenethylamine | Benzeneethanamine, alpha,alpha-dimethyl- | 122-09-8 |
| 2,4-Dimethylphenol | Phenol, 2,4-dimethyl- | 105-67-9 |
| Dimethyl phthalate | 1,2-Benzenedicarboxylic acid, dimethyl ester | 131-11-3 |
| Dimethyl sulfate | Sulfuric acid, dimethyl ester | 77-78-1 |
| Dimetilan (5/96) | Carbamic acid, dimethyl-, 1-[(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester | 644-64-4 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Dinitrobenzene, N.O.S.[1] | Benzene, dinitro- | 25154-54-5 |
| 4,6-Dinitro-o-cresol | Phenol, 2-methyl-4,6-dinitro- | 534-52-1 |
| 4,6-Dinitro-o-cresol salts | | |
| 2,4-Dinitrophenol | Phenol, 2,4-dinitro- | 51-28-5 |
| 2,4-Dinitrotoluene | Benzene, 1-methyl-2,4-dinitro- | 121-14-2 |
| 2,6-Dinitrotoluene | Benzene, 2-methyl-1,3-dinitro- | 606-20-2 |
| Dinoseb | Phenol, 2-(1-methylpropyl)-4,6-dinitro- | 88-85-7 |
| Di-n-octyl phthalate | 1,2-Benzenedicarboxylic acid, dioctyl ester | 117-84-0 |
| Diphenylamine | Benzenamine, N-phenyl- | 122-39-4 |
| 1,2-Diphenylhydrazine | Hydrazine, 1,2-diphenyl- | 122-66-7 |
| Di-n-propylnitrosamine | 1-Propanamine, N-nitroso-N-propyl- | 621-64-7 |
| Disulfiram (5/96) | Thioperoxydicarbonic diamide, tetraethyl | 97-77-8 |
| Disulfoton | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester | 298-04-4 |
| Dithiobiuret | Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$ | 541-53-7 |
| Endosulfan | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide | 115-29-7 |
| Endothall | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid | 145-73-3 |
| Endrin | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)- | 72-20-8 |
| Endrin metabolites | | |
| Epichlorohydrin | Oxirane, (chloromethyl)- | 106-89-8 |
| Epinephrine | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)- | 51-43-4 |
| EPTC | Carbamothioic acid, dipropyl-, S-ethyl ester | 759-94-4 |
| Ethyl carbamate (urethane) | Carbamic acid, ethyl ester | 51-79-6 |
| Ethyl cyanide | Propanenitrile | 107-12-0 |
| Ethylenebisdithiocarbamic acid | Carbamodithioic acid, 1,2-ethanediylbis- | 111-54-6 |
| Ethylenebisdithiocarbamic acid, salts and esters | | |
| Ethylene dibromide | Ethane, 1,2-dibromo- | 106-93-4 |
| Ethylene dichloride | Ethane, 1,2-dichloro- | 107-06-2 |
| Ethylene glycol monoethyl ether | Ethanol, 2-ethoxy- | 110-80-5 |
| Ethyleneimine | Aziridine | 151-56-4 |
| Ethylene oxide | Oxirane | 75-21-8 |
| Ethylenethiourea | 2-Imidazolidinethione | 96-45-7 |
| Ethylidene dichloride | Ethane, 1,1-dichloro- | 75-34-3 |
| Ethyl methacrylate | 2-Propenoic acid, 2-methyl-, ethyl ester | 97-63-2 |
| Ethyl methanesulfonate | Methanesulfonic acid, ethyl ester | 62-50-0 |
| Ethyl Ziram (5/96) | Zinc, bis(diethylcarbamodithioato-S,S')- | 14324-55-1 |
| Famphur | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester | 52-85-7 |
| Ferbam (5/96) | Iron, tris(dimethylcarbamodithioat-S,S')-, | 14484-64-1 |
| Fluoranthene | Same | 206-44-0 |
| Fluorine | Same | 7782-41-4 |
| Fluoroacetamide | Acetamide, 2-fluoro- | 640-19-7 |
| Fluoroacetic acid, sodium salt | Acetic acid, fluoro-, sodium salt | 62-74-8 |
| Formaldehyde | Same | 50-00-0 |
| Formetanate hydrochloride | Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride (5/96) | 23422-53-9 |
| Formic acid | Same | 64-18-6 |
| Formparanate (5/96) | Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino) carbonyl]oxy]phenyl]-. | 17702-57-7 |
| Glycidylaldehyde | Oxiranecarboxyaldehyde | 765-34-4 |
| Halomethanes, N.O.S.[1] | | |
| Heptachlor | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- | 76-44-8 |
| Heptachlor epoxide | 2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa- hydro-, (1aalpha,1bbeta,2alpha,5alpha, 5abeta,6beta,6aalpha)- | 1024-57-3 |
| Heptachlor epoxide (alpha, beta, and gamma isomers) | | |
| Heptachlorodibenzofurans | (5/96) | |
| Heptachlorodibenzo-p-dioxins | (5/96) | |
| Hexachlorobenzene | Benzene, hexachloro- | 118-74-1 |
| Hexachlorobutadiene | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- | 87-68-3 |
| Hexachlorocyclopentadiene | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- | 77-47-4 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Hexachlorodibenzo-p-dioxins | | |
| Hexachlorodibenzofurans | | |
| Hexachloroethane | Ethane, hexachloro- | 67-72-1 |
| Hexachlorophene | Phenol, 2,2'-methylenebis[3,4,6-trichloro- | 70-30-4 |
| Hexachloropropene | 1-Propene, 1,1,2,3,3,3-hexachloro- | 1888-71-7 |
| Hexaethyl tetraphosphate | Tetraphosphoric acid, hexaethyl ester | 757-58-4 |
| Hydrazine | Same | 302-01-2 |
| Hydrogen cyanide | Hydrocyanic acid | 74-90-8 |
| Hydrogen fluoride | Hydrofluoric acid | 7664-39-3 |
| Hydrogen sulfide | Hydrogen sulfide $H_2S$ | 7783-06-4 |
| Indeno[1,2,3-cd]pyrene | Same | 193-39-5 |
| 3-Iodo-2-propynyl n-butylcarbamate (5/96) | Carbamic acid, butyl-, 3-iodo-2-propynyl ester | 55406-53-6 |
| Isobutyl alcohol | 1-Propanol, 2-methyl- | 78-83-1 |
| Isodrin | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,-8abeta) - | 465-73-6 |
| Isolan (5/96) | Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester | 119-38-0 |
| Isosafrole | 1,3-Benzodioxole, 5-(1-propenyl)- | 120-58-1 |
| Kepone | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- | 143-50-0 |
| Lasiocarpine | 2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]- | 303-34-1 |
| Lead | Same | 7439-92-1 |
| Lead compounds, N.O.S.[1] | | |
| Lead acetate | Acetic acid, lead(2+) salt | 301-04-2 |
| Lead phosphate | Phosphoric acid, lead(2+) salt (2:3) | 7446-27-7 |
| Lead subacetate | Lead, bis(acetato-O)tetrahydroxytri- | 1335-32-6 |
| Lindane | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- | 58-89-9 |
| Maleic anhydride | 2,5-Furandione | 108-31-6 |
| Maleic hydrazide | 3,6-Pyridazinedione, 1,2-dihydro- | 123-33-1 |
| Malononitrile | Propanedinitrile | 109-77-3 |
| Manganese dimethyldithiocarbamate (5/96) | Manganese, bis(dimethylcarbamodithioato-S,S')-, | 15339-36-3 |
| Melphalan | L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]- | 148-82-3 |
| Mercury | Same | 7439-97-6 |
| Mercury compounds, N.O.S.[1] | | |
| Mercury fulminate | Fulminic acid, mercury(2+) salt | 628-86-4 |
| Metam Sodium (5/96) | Carbamodithioic acid, methyl-, monosodium salt | 137-42-8 |
| Methacrylonitrile | 2-Propenenitrile, 2-methyl- | 126-98-7 |
| Methapyrilene | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- | 91-80-5 |
| Methiocarb (5/96) | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate | 2032-65-7 |
| Methomyl | Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester | 16752-77-5 |
| Methoxychlor | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- | 72-43-5 |
| Methyl bromide | Methane, bromo- | 74-83-9 |
| Methyl chloride | Methane, chloro- | 74-87-3 |
| Methyl chlorocarbonate | Carbonochloridic acid, methyl ester | 79-22-1 |
| Methyl chloroform | Ethane, 1,1,1-trichloro- | 71-55-6 |
| 3-Methylcholanthrene | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- | 56-49-5 |
| 4,4'-Methylenebis (2-chloroaniline) | Benzenamine, 4,4'-methylenebis[2-chloro- | 101-14-4 |
| Methylene bromide | Methane, dibromo- | 74-95-3 |
| Methylene chloride | Methane, dichloro- | 75-09-2 |
| Methyl ethyl ketone (MEK) | 2-Butanone | 78-93-3 |
| Methyl ethyl ketone peroxide | 2-Butanone, peroxide | 1338-23-4 |
| Methyl hydrazine | Hydrazine, methyl- | 60-34-4 |
| Methyl iodide | Methane, iodo- | 74-88-4 |
| Methyl isocyanate | Methane, isocyanato- | 624-83-9 |
| 2-Methyllactonitrile | Propanenitrile, 2-hydroxy-2-methyl- | 75-86-5 |
| Methyl methacrylate | 2-Propenoic acid, 2-methyl-, methyl ester | 80-62-6 |
| Methyl methanesulfonate | Methanesulfonic acid, methyl ester | 66-27-3 |
| Methyl parathion | Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester | 298-00-0 |
| Methylthiouracil | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- | 56-04-2 |
| Metolcarb (5/96) | Carbamic acid, methyl-, 3-methylphenyl ester | 1129-41-5 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Mexacarbate (5/96) | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester) | 315-18-4 |
| Mitomycin C | Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5- methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-. | 50-07-7 |
| MNNG | Guanidine, N-methyl-N'-nitro-N-nitroso- | 70-25-7 |
| Molinate (5/96) | 1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester | 2212-67-1 |
| Mustard gas | Ethane, 1,1'-thiobis[2-chloro- | 505-60-2 |
| Naphthalene | Same | 91-20-3 |
| 1,4-Naphthoquinone | 1,4-Naphthalenedione | 130-15-4 |
| alpha-Naphthylamine | 1-Naphthalenamine | 134-32-7 |
| beta-Naphthylamine | 2-Naphthalenamine | 91-59-8 |
| alpha-Naphthylthiourea | Thiourea, 1-naphthalenyl- | 86-88-4 |
| Nickel | Same | 7440-02-0 |
| Nickel compounds, N.O.S.[1] | | |
| Nickel carbonyl | Nickel carbonyl $Ni(CO)_4$, (T-4)- | 13463-39-3 |
| Nickel cyanide | Nickel cyanide $Ni(CN)_2$ | 557-19-7 |
| Nicotine | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- | 54-11-5 |
| Nicotine salts | | |
| Nitric oxide | Nitrogen oxide NO | 10102-43-9 |
| p-Nitroaniline | Benzenamine, 4-nitro- | 100-01-6 |
| Nitrobenzene | Benzene, nitro- | 98-95-3 |
| Nitrogen dioxide | Nitrogen oxide $NO_2$ | 10102-44-0 |
| Nitrogen mustard | Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl- | 51-75-2 |
| Nitrogen mustard, hydrochloride salt | | |
| Nitrogen mustard N-oxide | Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide | 126-85-2 |
| Nitrogen mustard, N-oxide, hydrochloride salt | | |
| Nitroglycerin | 1,2,3-Propanetriol, trinitrate | 55-63-0 |
| p-Nitrophenol | Phenol, 4-nitro- | 100-02-7 |
| 2-Nitropropane | Propane, 2-nitro- | 79-46-9 |
| Nitrosamines, N.O.S.[1] | | 35576-91-1D |
| N-Nitrosodi-n-butylamine | 1-Butanamine, N-butyl-N-nitroso- | 924-16-3 |
| N-Nitrosodiethanolamine | Ethanol, 2,2'-(nitrosoimino)bis- | 1116-54-7 |
| N-Nitrosodiethylamine | Ethanamine, N-ethyl-N-nitroso- | 55-18-5 |
| N-Nitrosodimethylamine | Methanamine, N-methyl-N-nitroso- | 62-75-9 |
| N-Nitroso-N-ethylurea | Urea, N-ethyl-N-nitroso- | 759-73-9 |
| N-Nitrosomethylethylamine | Ethanamine, N-methyl-N-nitroso- | 10595-95-6 |
| N-Nitroso-N-methylurea | Urea, N-methyl-N-nitroso- | 684-93-5 |
| N-Nitroso-N-methylurethane | Carbamic acid, methylnitroso-, ethyl ester | 615-53-2 |
| N-Nitrosomethylvinylamine | Vinylamine, N-methyl-N-nitroso- | 4549-40-0 |
| N-Nitrosomorpholine | Morpholine, 4-nitroso- | 59-89-2 |
| N-Nitrosonornicotine | Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- | 16543-55-8 |
| N-Nitrosopiperidine | Piperidine, 1-nitroso- | 100-75-4 |
| N-Nitrosopyrrolidine | Pyrrolidine, 1-nitroso- | 930-55-2 |
| N-Nitrososarcosine | Glycine, N-methyl-N-nitroso- | 13256-22-9 |
| 5-Nitro-o-toluidine | Benzenamine, 2-methyl-5-nitro- | 99-55-8 |
| Octachlorodibenzo-p-dioxin (OCDD) | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (7/02) | |
| Octachlorodibenzofuran(OCDF) | 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (7/02) | |
| Octamethylpyrophos-phoramide | Diphosphoramide, octamethyl- | 152-16-9 |
| Osmium tetroxide | Osmium oxide $OsO_4$, (T-4)- | 20816-12-0 |
| Oxamyl (5/96) | Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester | 23135-22-0 |
| Paraldehyde | 1,3,5-Trioxane, 2,4,6-trimethyl- | 123-63-7 |
| Parathion | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester | 56-38-2 |
| Pebulate | Carbamothioic acid, butylethyl-, S-propyl ester | 1114-71-2 |
| Pentachlorobenzene | Benzene, pentachloro- | 608-93-5 |
| Pentachlorodibenzo-p-dioxins | | |
| Pentachlorodibenzofurans | | |
| Pentachloroethane | Ethane, pentachloro- | 76-01-7 |
| Pentachloronitrobenzene (PCNB) | Benzene, pentachloronitro- | 82-68-8 |
| Pentachlorophenol | Phenol, pentachloro- | 87-86-5 |
| Phenacetin | Acetamide, N-(4-ethoxyphenyl)- | 62-44-2 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Phenol | Same | 108-95-2 |
| Phenylenediamine | Benzenediamine | 25265-76-3 |
| Phenylmercury acetate | Mercury, (acetato-O)phenyl- | 62-38-4 |
| Phenylthiourea | Thiourea, phenyl- | 103-85-5 |
| Phosgene | Carbonic dichloride | 75-44-5 |
| Phosphine | Same | 7803-51-2 |
| Phorate | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester | 298-02-2 |
| Phthalic acid esters, N.O.S.[1] | | |
| Phthalic anhydride | 1,3-Isobenzofurandione | 85-44-9 |
| Physostigmine (5/96) | Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- | 57-47-6 |
| Physostigmine salicylate (5/96) | Benzoic acid, 2-hydroxy -, compd. with (3aS-cis) -1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1). | 57-64-7 |
| 2-Picoline | Pyridine, 2-methyl- | 109-06-8 |
| Polychlorinated biphenyls, N.O.S.[1] | | |
| Potassium cyanide | Potassium cyanide K(CN) | 151-50-8 |
| Potassium dimethyldithiocarbamate (5/96) | Carbamodithioc acid, dimethyl, potassium salt | 128-03-0 |
| Potassium n-hydroxymethyl-n-methyl-dithiocarbamate | Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt | 51026-28-9 |
| Potassium n-methyldithiocarbamate (5/96) | Carbamodithioc acid, methyl-monopotassium salt | 137-41-7 |
| Potassium pentachlorophenate | Pentachlorophenol, potassium salt | 7778736 |
| Potassium silver cyanide | Argentate(1-), bis(cyano-C)-, potassium | 506-61-6 |
| Promecarb (5/96) | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate | 2631-37-0 |
| Pronamide | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- | 23950-58-5 |
| 1,3-Propane sultone | 1,2-Oxathiolane, 2,2-dioxide | 1120-71-4 |
| n-Propylamine | 1-Propanamine | 107-10-8 |
| Propargyl alcohol | 2-Propyn-1-ol | 107-19-7 |
| Propham | Carbamic acid, phenyl-, 1-methylethyl ester | 122-42-9 |
| Propoxur | Phenol, 2-(1-methylethoxy)-, methylcarbamate | 114-26-1 |
| Propylene dichloride | Propane, 1,2-dichloro- | 78-87-5 |
| 1,2-Propylenimine | Aziridine, 2-methyl- | 75-55-8 |
| Propylthiouracil | 4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo- | 51-52-5 |
| Prosulfocarb | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester | 52888-80-9 |
| Pyridine | Same | 110-86-1 |
| Reserpine | Yohimban-16-carboxylic acid, 11,17-dimethoxy -18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)- | 50-55-5 |
| Resorcinol | 1,3-Benzenediol | 108-46-3 |
| Saccharin | 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide | 81-07-2 |
| Saccharin salts | | |
| Safrole | 1,3-Benzodioxole, 5-(2-propenyl)- | 94-59-7 |
| Selenium | Same | 7782-49-2 |
| Selenium compounds, N.O.S.[1] | | |
| Selenium dioxide | Selenious acid | 7783-00-8 |
| Selenium sulfide | Selenium sulfide $SeS_2$ | 7488-56-4 |
| Selenium, tetrakis (dimethyl-dithiocarbamate. | Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid. | 144-34-3 |
| Selenourea | Same | 630-10-4 |
| Silver | Same | 7440-22-4 |
| Silver compounds, N.O.S.[1] | | |
| Silver cyanide | Silver cyanide Ag(CN) | 506-64-9 |
| Silvex (2,4,5-TP) | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- | 93-72-1 |
| Sodium cyanide | Sodium cyanide Na(CN) | 143-33-9 |
| Sodium dibutyldithiocarbamate | Carbamodithioic acid, dibutyl, sodium salt (5/96) | 136-30-1 |
| Sodium diethyldithiocarbamate | Carbamodithioic acid, diethyl-, sodium salt (5/96) | 148-18-5 |
| Sodium dimethyldithiocarbamate | Carbamodithioic acid, dimethyl-, sodium salt (5/96) | 128-04-1 |
| Sodium pentachlorophenate | Pentachlorophenol, sodium salt | 131522 |
| Streptozotocin | D-Glucose, 2-deoxy -2-[[(methylnitrosoamino)carbonyl]amino]- | 18883-66-4 |
| Strychnine | Strychnidin-10-one | 57-24-9 |
| Strychnine salts | | |
| Sulfallate (5/96) | Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester | 95-06-7 |
| TCDD | Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- | 1746-01-6 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Tetrabutylthiuram disulfide | Thioperoxydicarbonic diamide, tetrabutyl (5/96) | 1634-02-2 |
| 1,2,4,5-Tetrachlorobenzene | Benzene, 1,2,4,5-tetrachloro- | 95-94-3 |
| Tetrachlorodibenzo-p-dioxins | | |
| Tetrachlorodibenzofurans | | |
| Tetrachloroethane, N.O.S.[1] | Ethane, tetrachloro-, N.O.S. | 25322-20-7 |
| 1,1,1,2-Tetrachloroethane | Ethane, 1,1,1,2-tetrachloro- | 630-20-6 |
| 1,1,2,2-Tetrachloroethane | Ethane, 1,1,2,2-tetrachloro- | 79-34-5 |
| Tetrachloroethylene | Ethene, tetrachloro- | 127-18-4 |
| 2,3,4,6-Tetrachlorophenol | Phenol, 2,3,4,6-tetrachloro- | 58-90-2 |
| 2,3,4,6-tetrachlorophenol, potassium salt | same | 53535276 |
| 2,3,4,6-tetrachlorophenol, sodium salt | same | 25567559 |
| Tetraethyldithiopyrophos-phate | Thiodiphosphoric acid, tetraethyl ester | 3689-24-5 |
| Tetraethyl lead | Plumbane, tetraethyl- | 78-00-2 |
| Tetraethyl pyrophosphate | Diphosphoric acid, tetraethyl ester | 107-49-3 |
| Tetramethylthiuram monosulfide | Bis(dimethylthiocarbamoyl) sulfide | 97-74-5 |
| Tetranitromethane | Methane, tetranitro- | 509-14-8 |
| Thallium | Same | 7440-28-0 |
| Thallium compounds, N.O.S.[1] | | |
| Thallic oxide | Thallium oxide $Tl_2O_3$ | 1314-32-5 |
| Thallium(I) acetate | Acetic acid, thallium(1+) salt | 563-68-8 |
| Thallium(I) carbonate | Carbonic acid, dithallium(1+) salt | 6533-73-9 |
| Thallium(I) chloride | Thallium chloride TlCl | 7791-12-0 |
| Thallium(I) nitrate | Nitric acid, thallium(1+) salt | 10102-45-1 |
| Thallium selenite | Selenious acid, dithallium(1+) salt | 12039-52-0 |
| Thallium(I) sulfate | Sulfuric acid, dithallium(1+) salt | 7446-18-6 |
| Thioacetamide | Ethanethioamide | 62-55-5 |
| Thiodicarb (5/96) | Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester. | 59669-26-0 |
| Thiofanox | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime | 39196-18-4 |
| Thiomethanol | Methanethiol | 74-93-1 |
| Thiophanate-methyl | Carbamic acid, [1,2-phyenylenebis (iminocarbonothioyl)] bis-, dimethyl ester | 23564-05-8 |
| Thiophenol | Benzenethiol | 108-98-5 |
| Thiosemicarbazide | Hydrazinecarbothioamide | 79-19-6 |
| Thiourea | Same | 62-56-6 |
| Thiram | Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl- | 137-26-8 |
| Tirpate (5/96) | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime. | 26419-73-8 |
| Toluene | Benzene, methyl- | 108-88-3 |
| Toluenediamine | Benzenediamine, ar-methyl- | 25376-45-8 |
| Toluene-2,4-diamine | 1,3-Benzenediamine, 4-methyl- | 95-80-7 |
| Toluene-2,6-diamine | 1,3-Benzenediamine, 2-methyl- | 823-40-5 |
| Toluene-3,4-diamine | 1,2-Benzenediamine, 4-methyl- | 496-72-0 |
| Toluene diisocyanate | Benzene, 1,3-diisocyanatomethyl- | 26471-62-5 |
| o-Toluidine | Benzenamine, 2-methyl- | 95-53-4 |
| o-Toluidine hydrochloride | Benzenamine, 2-methyl-, hydrochloride | 636-21-5 |
| p-Toluidine | Benzenamine, 4-methyl- | 106-49-0 |
| Toxaphene | Same | 8001-35-2 |
| Triallate (5/96) | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester | 2303-17-5 |
| 2,4,6-Tribromophenol. (11/99) | Tribromophenol.,2,4,6- | 118-79-6 |
| Tributyltin | Tributylstannane (6/02) | 688-73-3 |
| Tributyltin Oxide | Bis(tri-n-butyltin) Oxide (6/02) | 56-35-9 |
| Tributyltin Chloride | Tributylchlorostannane (6/02) | 1461-22-9 |
| Tributyltin Hydroxide | Tributylhydroxystannane (6/02) | 1067-97-6 |
| Tributyltin Bromide | Tributylbromostannane (6/02) | 1461-23-0 |
| Tributyltin Acetate | (acetyloxy)tributylstannane (6/02) | 56-36-0 |
| Tributyltin Fluoride | Tributylfluorostannane (6/02) | 1983-23-0 |
| Triethyltin | Triethylstannane (6/02) | 997-50-2 |
| Triethyltin Chloride | Triethyltin Chloride (6/02) | 994-31-0 |
| 1,2,4-Trichlorobenzene | Benzene, 1,2,4-trichloro- | 120-82-1 |
| 1,1,2-Trichloroethane | Ethane, 1,1,2-trichloro- | 79-00-5 |
| Trichloroethylene | Ethene, trichloro- | 79-01-6 |
| Trichloromethanethiol | Methanethiol, trichloro- | 75-70-7 |

## Appendix VIII Hazardous Constituents

| Common name | Chemical abstracts name (9/98) | CAS # |
|---|---|---|
| Trichloromonofluoromethane | Methane, trichlorofluoro- | 75-69-4 |
| 2,4,5-Trichlorophenol | Phenol, 2,4,5-trichloro- | 95-95-4 |
| 2,4,6-Trichlorophenol | Phenol, 2,4,6-trichloro- | 88-06-2 |
| 2,4,5-T | Acetic acid, (2,4,5-trichlorophenoxy)- | 93-76-5 |
| Trichloropropane, N.O.S.[1] | | 25735-29-9 |
| 1,2,3-Trichloropropane | Propane, 1,2,3-trichloro- | 96-18-4 |
| Triethylamine (5/96) | Ethanamine, N,N-diethyl- | 121-44-8 |
| O,O,O-Triethyl phosphorothioate | Phosphorothioic acid, O,O,O-triethyl ester | 126-68-1 |
| 1,3,5-Trinitrobenzene | Benzene, 1,3,5-trinitro- | 99-35-4 |
| Tris(1-aziridinyl)phosphine sulfide | Aziridine, 1,1',1''-phosphinothioylidynetris- | 52-24-4 |
| Tris(2,3-dibromopropyl) phosphate | 1-Propanol, 2,3-dibromo-, phosphate (3:1) | 126-72-7 |
| Trypan blue | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'diyl)bis(azo)]- bis[5-amino-4-hydroxy -, tetrasodium salt | 72-57-1 |
| Uracil mustard | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- | 66-75-1 |
| Vanadium pentoxide | Vanadium oxide $V_2O_5$ | 1314-62-1 |
| Vernolate (5/96) | Carbamothioc acid, dipropyl-, S-propyl ester | 1929-77-7 |
| Vinyl chloride | Ethene, chloro- | 75-01-4 |
| Warfarin | 2H-1-Benzopyran-2-one, 4-hydroxy -3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3% | 81-81-2 |
| Warfarin | 2H-1-Benzopyran-2-one, 4-hydroxy -3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3% | 81-81-2 |
| Warfarin salts, when present at concentrations less than 0.3% | | |
| Warfarin salts, when present at concentrations greater than 0.3% | | |
| Zinc cyanide | Zinc cyanide $Zn(CN)_2$ | 557-21-1 |
| Zinc phosphide | Zinc phosphide $Zn_3P_2$, when present at concentrations greater than 10% | 1314-84-7 |
| Zinc phosphide | Zinc phosphide $Zn_3P_2$, when present at concentrations of 10% or less | 1314-84-7 |
| Ziram | Zinc, bis(dimethylcarbamodithioato-S,S')-, (T-4)- | 137-30-4 |

[1]The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

## Appendix IX Wastes Excluded under 260.20 & 260.22

Note: Refer to 40 CFR 260 Appendix IX, June 30, 2003 and federal amendments
http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-I.htm

## Appendix X [Reserved 12/93]

## Appendix XI Other Designated Waste

| Hazardous Waste # | Substance (6/89, 6/95) |
|---|---|
| 5555 | Any solid waste the Department determines constitutes a hazard and requires greater control |
| 7777 | Non-hazardous waste received by a hazardous waste facility |